American Livestock Journal

FOUNDED AS BREEDER'S GAZETTE IN 1881

NOVEMBER 1961

U.S.D.A. Photo by Stenhouse

Give American Livestock Journal This Christmas

American Livestock Journal

FOUNDED AS
BREEDER'S GAZETTE
IN 1881

COVER PICTURE

This proud fellow is a Crimson Dawn or Black-winged Bronze gobbler raised at the Beltsville Research Center of the U. S. Department of Agriculture, Beltsville, Md. The Crimson Dawn —a variation of the popular Bronze and sometimes called "Black-winged Bronze"—is a variety developed by the use of plumage color and pattern. Both the male and the female Crimson Dawn are colored like the Bronze, except that their primary wing feathers are solid black and not barred as with the Bronze. U. S. D. A. Photograph by Stenhouse.

EDITOR'S NOTE

The article "Do Your Hogs Pay Dividends?" which was published in the October issue of AMERICAN LIVESTOCK JOURNAL, was written by Dr. B. N. Day, Animal Husbandry Department, University of Missouri.

NOVEMBER 1961

Volume 126
Number 11
2796

CONTENTS

4 Good Cattle Showmanship
6 Market Digest
7 Thanks For White Meat
8 Meat-type Steers
10 Iowa Bull Testing Station
11 The Cow-Calf Plan at Work
12 Little Farmers Make Good
14 New Product, New Pig!
17 Validation of Swine Herds
18 Gleaning Lambs in Cornfield
20 What's News?
22 In Case of Fallout
23 Vital Topics
26 Roaming Tannery
28 Lamb Carcass Contest
30 Hogs on Slatted Floors
34 Sam Guard's Roundup

PUBLISHER	Breeders Gazette Publishing Company
EDITOR	Samuel R. Guard
ADVERTISING MANAGER	Bill McKee
CIRCULATION MANAGER	George Eliadis
EDITORIAL OFFICES	220 Livestock Exchange, Louisville 6, Ky.
BUSINESS OFFICES	200 South 7th St., Columbia, Missouri
ADVERTISING OFFICE	200 South 7th St., Columbia, Missouri
CIRCULATION OFFICE	200 South 7th St., Columbia, Missouri

LIVESTOCK FIELDMEN

Vaughn Lipp	Box 125, Ossian, Ind.—Phone 265
James Malloy	Parnell, Iowa—Phone MR 8-2009
Glenn Westfall	Halfway, Mo.—Phone Halfway Exchange

ADVERTISING OFFICES

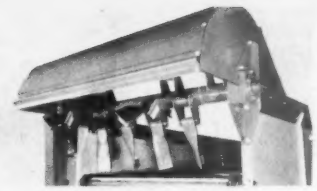
Chicago	Richard Jones, 333 North Michigan Ave. Chicago 1, Ill.—Phone CEntral 6-2828
New York	Bill Shannon, 28 West 44th Street New York 36, N. Y.—Phone LOngacre 3-1750
Atlanta	Campbell Irving, 1801 Peachtree St., N.E. Atlanta 9, Ga.—Phone TRinity 2-8002
Detroit	Charles Sheppard, Penobscot Building Detroit 26, Mich.—Phone WOodward 2-3080
Cleveland	Fred Fey, 339 Citizens Building Cleveland 14, Ohio—Phone CHerry 1-2029
Los Angeles	The Eschen Co., 3142 Wilshire Blvd. Los Angeles 5, Calif.—Phone DUnkirk 2-8391
San Francisco	The Eschen Co., 57 Post St. San Francisco 4, Calif.—Phone SUtter 1-7440

Send Your Renewal, New Subscription or Change of Address to AMERICAN LIVESTOCK JOURNAL 200 South Seventh Street Columbia, Missouri
Our subscription rates are 5 years for $3; 3 years for $2; 1 year for $1.

Entered as second-class matter at the Post Office at Columbia, Missouri, under Act of March 3, 1789. Title "Breeders Gazette," Registered U. S. Patent Office.

Published monthly and all rights reserved by BREEDERS GAZETTE PUBLISHING COMPANY 200 South Seventh Street Columbia, Missouri

America's most talked-about spreader has a new BIG BROTHER



FIRST FLAIL SPREADER

A year ago NEW IDEA introduced the first flail spreader. Capacity: 130 bushels. Today, farmers everywhere are talking about this new kind of spreader.

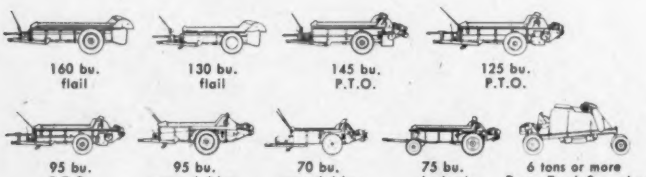
NEW IDEA now offers a flail spreader — 160 bushels big!

Only NEW IDEA offers a choice of flail or paddle spreader — so only NEW IDEA can give you the type you want in the size you need.

■ It didn't take farmers long to make up their minds about the flail spreader, even though it is a dramatic new concept in spreading. Now the new 160-bushel model offers the ideal spreader to owners of large livestock operations and big dairy herds. Both sizes let you spread in any weather.

Size is important, too. Picking the right spreader is as important as getting the right tractor. Buy a spreader that's too big, and you're over-invested. Too small, and you spend extra hours getting the job done. To help you make the right choice, NEW IDEA offers the world's most complete line of spreaders.

NEW IDEA gives you a choice of 9 models and 2 types — the famous NEW IDEA paddle type or new flail type. So, only your NEW IDEA dealer can give you the type you *want* in the size you *need*. Visit him today. Look over his fine selection of the world's most complete line of spreaders — each backed by a full-year written guarantee.



NEW IDEA

MAIL THIS COUPON NOW

NEW IDEA, **Box 280, Coldwater, Ohio**

Please send me a copy of the new brochure, "Spreaders, the type you want, the size you need" — covering NEW IDEA'S complete line. No obligation, of course.

NAME _____

☐ Student

ADDRESS _____

TOWN _____ STATE _____

PRODUCTS OF **Avco** CORPORATION

New Oil-Rite
CONTOUR-BACK
CATTLE OILER

Kills Grubs and Parasites—Controls Weight Losses!

OIL-RITE cattle oiler has controlled oil metering. Eliminate waste. Contour-back design fits completely over steer, does quicker job.

Long lasting rope scratcher gives even distribution of oil. 4-gallon capacity. Sturdy 2" x 2" angle iron construction. Portable or may be set in concrete for permanent installation. No bags or pumps to replace. Write Dept. 36
NORWOOD PRODUCTS CO., Luverne, Minnesota.
DEALER INQUIRIES INVITED

Why "Good-Time Charlie" Suffers Uneasy Bladder

Such a common thing as unwise eating or drinking may be a source of mild, but annoying bladder irritations—making you feel restless, tense, and uncomfortable. And if restless nights, with nagging backache, headache or muscular aches and pains due to over-exertion, strain or emotional upset, are adding to your misery—don't wait—try Doan's Pills.

Doan's Pills have three outstanding advantages—act in three ways for your speedy return to comfort. 1—They have an easing soothing effect on bladder irritations. 2—A fast pain-relieving action on nagging backache, headaches, muscular aches and pains. 3—A wonderfully mild diuretic action thru the kidneys, tending to increase the output of the 15 miles of kidney tubes. So, get the same happy relief millions have enjoyed for over 60 years. Ask for new, large, economy size and save money. Get Doan's Pills today!

FARROW MORE PIGS
FOR MORE PROFITS

DEHY

was added to the diet of gilts during gestation and lactation periods in a recent South Dakota State College study.

(1) Of those fed only small amounts or no dehy
ONLY 63.3% FARROWED

(2) Of those on 5 and 10% dehydrated alfalfa meal
100 and 90.9% FARROWED!

MAIL for free booklet and new findings about pigs and profits.

AMERICAN DEHYDRATORS ASSN.
Board of Trade Bldg., Kansas City, Mo.
Name_____
Address_____
City_____ State_____

PUT YOUR BEST FOOT FORWARD IN THE SHOW RING

The Extension Animal Husbandry Office at the University of West Virginia, Morgantown, has issued a blue book to their field workers from which we condense instructions to show what makes a "good cattle showman" put his best foot forward. Or should we say her foot, the way these gals are taking over.

A good cattle showman:

1. Makes sure the nose strap of the halter is midway between the eyes and nose.
2. Places the halter over-strap behind the animal's ears.
3. May clip the head of polled and well-dehorned animals to a point about three inches back of the ears. The ears may be trimmed on the back side only. The heads and ears of stub horned and long horned animals are left untrimmed.
4. Has the horns, if any, trained, shaped and polished.
5. Has the tail clipped from the twist to and including the tailhead.
6. Has the tail switch clean, brushed out and made as fluffy as possible.
7. Makes sure the hair coat is dry. If a coat-dressing is applied, it is never enough to cause two hairs to stick together.

This farm girl proves that she knows how—Miss Carol Minish, of a famous Iowa cattle-fitting family with the grand champion steer, a Shorthorn at the 1961 Iowa State Fair.
Photo courtesy of American Shorthorn Association, Omaha, Neb.

8. Shows the hair coat either smooth or curled depending on the length of the hair and which type of hairdo improves the appearance most. A curly coat emphasizes thickness and frequently camouflages weakness in conformation.
9. Carries a brush or comb in a handy pocket.
10. Holds the lead strap in his right hand while parading his animal.
11. Leads his animal from the left side and holds the lead strap in the right hand from one to two feet from the head and at the height of the top of the animal's head. The extra length of lead strap is carried in the form of several large loops in the same hand.
12. Faces the animal and holds the lead strap in the left hand while showing at a standing position.
13. Makes sure his animal stands with his back level, head up and alert, and with a "foot under each corner."
14. Places the animal's front feet on slightly higher ground than the back feet whenever the ground is not level.
15. Uses a lightweight show stick about 4½ feet in length. A small blunt nail protruding about a half inch near the lower end makes the stick more useful. A cane is not used as it is too short.
16. May show his animal without the aid of a show stick if it can be shown as well that way.
17. Set your animal up with the fore feet in correct position before you place the hind feet.

SAFETY....

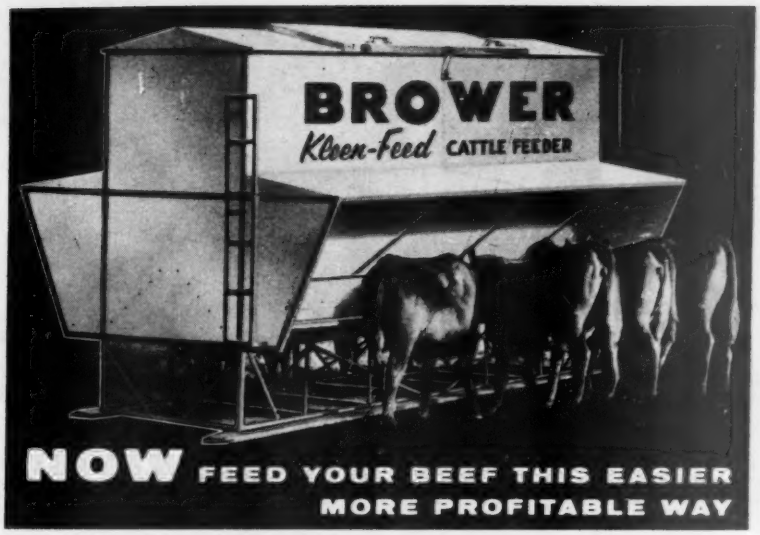
J. S. Smilie, L.S.U.

You may be quite an athlete but you cannot move fast enough to get off a tractor seat when the tractor starts to flip backward.

Time and motion studies at Rutgers University show that a rearing tractor gives you just two-fifths of a second to get out of the way.

The recommended practice to hitch below the axle tractor line is not in itself assurance against tipping backward. Gunning the engine with the drive wheels mired deep is almost certain to cause trouble.

When the drive wheels are mired as much as 10-to-12 inches, it is much safer to back out. The forward climbing motion exerts a terrific lifting action on the front of the tractor. Don't take a chance. Back out.



BROWER *Kleen-Feed* CATTLE FEEDER

Two Sizes — 15 Ft. and 7½ Ft.

- Fill Only Once a Week
- Trough Design Saves Feed
- Feed in Trough Always Fresh
- Improved Palatability Increases Intake for Faster Gains

Now — an exciting new self-feeder for cattle! Two sizes to meet the needs of large or small herds. Large size has 250 bu. capacity, feeds 100 cattle for a week on one filling; the 7½ ft. feeder, 125 bu. capacity, does it for 50 head. Saves over 100 hours of labor a year. Big feed savings, too — special designed trough all but eliminates waste . . . keeps feed clean, fresh, more palatable. Cattle eat more . . . make faster, more profitable gains. WRITE:

BROWER MFG. CO., Box 2875, QUINCY, ILLINOIS

BROWER MANUFACTURING CO.
Box 2875, Quincy, Illinois
Send facts on
☐ Cattle Feeder. ☐ Calf Creep Feeder
Name
Street or RFD
Town State

Fight TB

Use Christmas Seals

PEERLESS ROLLER MILLS
FOR EAR CORN & SMALL GRAINS

10 to 20% BETTER FEEDING RESULTS

Feeders everywhere are switching to "Dust-Free" feeds prepared by Peerless Roller Mills and ROL-N-MIX Units. You get faster gains, better finish, more production.

New ROL-N-MIX
3 in 1 Feed Making Unit
The complete feed making and hauling unit. Provides roller mill, mixer and self unloading wagon. Available in two sizes.

CHALLENGER "All-Purpose" MILL
Crimps—Cracks all small grain and granulates ear corn. No dust—no stringy shucks—uniform rolling and granulation. A size for every feeding operation.

PEERLESS EQUIPMENT CO., Inc.
Dept. 6141 Joplin, Missouri

"AUTOMATIC LIVESTOCK WATERING ...THE LIFESTREAM OF PRODUCTION"
by J. W. (Jack) Sampier
Editor, National Livestock Producer

Valuable reading for every livestock man, every dairyman, every poultry raiser . . . by one of America's most noted farm editors. 24 fact-filled pages, complete with photos and water tables. Water is your cheapest feed . . . this book tells you how to use it for more profit! No obligation. It's yours for the asking. Just mail the coupon.

RITCHIE MFG. CO. 428 WALNUT ST.
CONRAD, IOWA
Please send me a FREE copy of the "Automatic Watering" booklet by Jack Sampier.
Name
Address RFD
Town State
Since 1921 • America's Most Complete Line of Waterers

MARKETS DIGEST

From Now to Corn Planting

NEXT 6 MONTHS IN FED CATTLE PRICES: Probably a little below a year earlier during the first half of the period; a little above 1961 as the market moves into spring months. Especially on upper grades . . . heifers as well as steers. Supplies of these are not expected to be excessive for some time, particularly with prospects of better demand. With business activity increasing, consumers will have more money to spend for beef . . . just the opposite of last year.

MIDDLE AND LOWER GRADE CATTLE won't fare as well as Choice and Prime during winter and spring. Prospective market supply is shifting more to animals with poorer quality and finish, paving way for widening price spreads.

BIG BEEF SUPPLY NEXT YEAR may be in fall, rather than in spring and summer. Two reasons: Many feeders trying to shy away from this low period in 1961. And favorable wheat pastures are being stocked with calves and light yearlings that'll be ready for slaughter market by next fall.

STOCKER AND FEEDER MOVEMENT AT SEASON'S PEAK. But firm fed cattle market, ample feed grain supplies and strong holding by ranchers will prevent any sharp price break. Wheat pasture growth during next couple months will have important price bearing on feeders, especially light weights. Ranchers with feed and shelter should profit by carrying at least part of calf crop over winter.

NO SHARP CATTLE BREAK EXPECTED IN 1962. Some increases in slaughter numbers will likely be offset by lighter average market weights. And higher consumer demand will probably make up the difference. Result: Cattle prices averaging not much different than in 1961.

PEAK HOG SLAUGHTER DURING NOVEMBER AND EARLY DECEMBER. Weaker prices will result. Push hogs fast to 210-220 lbs., and sell as soon as they reach it. Summer farrowings were about 35% smaller than in late spring. Resulting cutback in receipts after December should bring strong winter price recovery . . . enough to plan extra gains for hogs now at light weights.

ONLY SMALL INCREASE IN FALL PIG CROP . . . all in late-farrowed Cornbelt pigs. It won't put much of a damper on spring prices. Looks safe to figure on about $1 below last spring and into summer. Spring pig crop—starting with December farrowing—will be 3% to 4% above 1961. Makes 1962 still look like a profitable year for hog men, though not as favorable as 1961.

SLAUGHTER LAMB PRICES MAY BE NEAR SEASONAL LOWS . . . though recovery won't likely be strong until mid-winter. Market supplies in late winter and spring will be somewhat less burdensome than last year . . . a smaller crop plus less liquidation. Should lead to much better feeding margins than last year, especially with this year's lower feeder lamb prices. Cheapen early feeder lamb gains with corn stalk gleaning and other low-cost roughage.

MILK COW DECLINE SINCE 1944 CONTINUES. But past year's drop of 150,000 was less than half of previous year's slide, and the smallest annual reduction since 1954. Higher production per cow, meanwhile, more than offsets cow cutback, resulting in 3% higher total milk output than last fall. Seasonal price uptrend has about run its course, will be working downward after this month and on into next June.

LOW POINT IN CORN AND SORGHUM PRICES will probably be reached during November. But post-harvest recovery may not be brisk until late spring. Supplies are larger than earlier expected, and CCC seems determined to keep a fairly wide spread between "free" market price and compliers' loan rate. It should pay to fill up bins with winter's feed needs during main harvest.

OILSEED MEAL SUPPLIES WILL BE MORE PLENTIFUL than during past year, and prices will average lower. Bumper soybean crop and larger crush for oil will provide about 12% more soybean meal for 1961-62 than the 9.5 million tons for 1960. Cottonseed meal production will be similar to past year's 2.5 million tons; tankage and meat meal up slightly. While feedstuffs prices aren't expected to soar like they did last winter, seasonal gains should be enough to justify buying ahead.

HAY SUPPLIES WILL BE ADEQUATE IN MOST AREAS not affected by summer's drought. Seasonal price gains from now through winter will be mostly on quality hay. On purchases, keep in mind that you usually get more feed value per dollar spent for high grade hay; trucking charges are no higher than on poor hay.

USDA Photo

THANKS For White Meat- Any Time!

For this November issue Breeder's Gazette Publishing Company wished to portray the spirit of Thanksgiving. Hence, the gobbler on the cover. He is a Crimson Dawn or Black-Winged Bronze gobbler, developed by the U.S.D.A. geneticists at the Beltsville, Md., Research Center, where they bred the bars off the Broad Breasted Bronze's primary wing feathers.

They have also given us the new Beltsville Whites and other apartment-sized varieties that weigh as little as 3 to 4 lbs., or as much as 7 to 8 lbs. And just to show you that we're not prejudiced for Bronzes, or Narragansetts, or Slates, we'll drive out three white gobblers, with the help of the lens-happy United States Department of Agriculture photographers.

Let us also tell you that U.S.D.A.'s National Turkey Improvement Plan embraces 106,000 flocks with 4,500,000 birds. It has rid the turkey-producing industry of disease and made oven-ready white meat available the year 'round, not just holidays.

But what has the advanced turkey technology meant to the stock farm that used to produce a few? It has put him, and her, out of business, that's what. You can't raise turkeys on the farm for 14-15 cents a pound. Even the big producers, with all the labor-saving equipment and modernized poults, are in trouble.

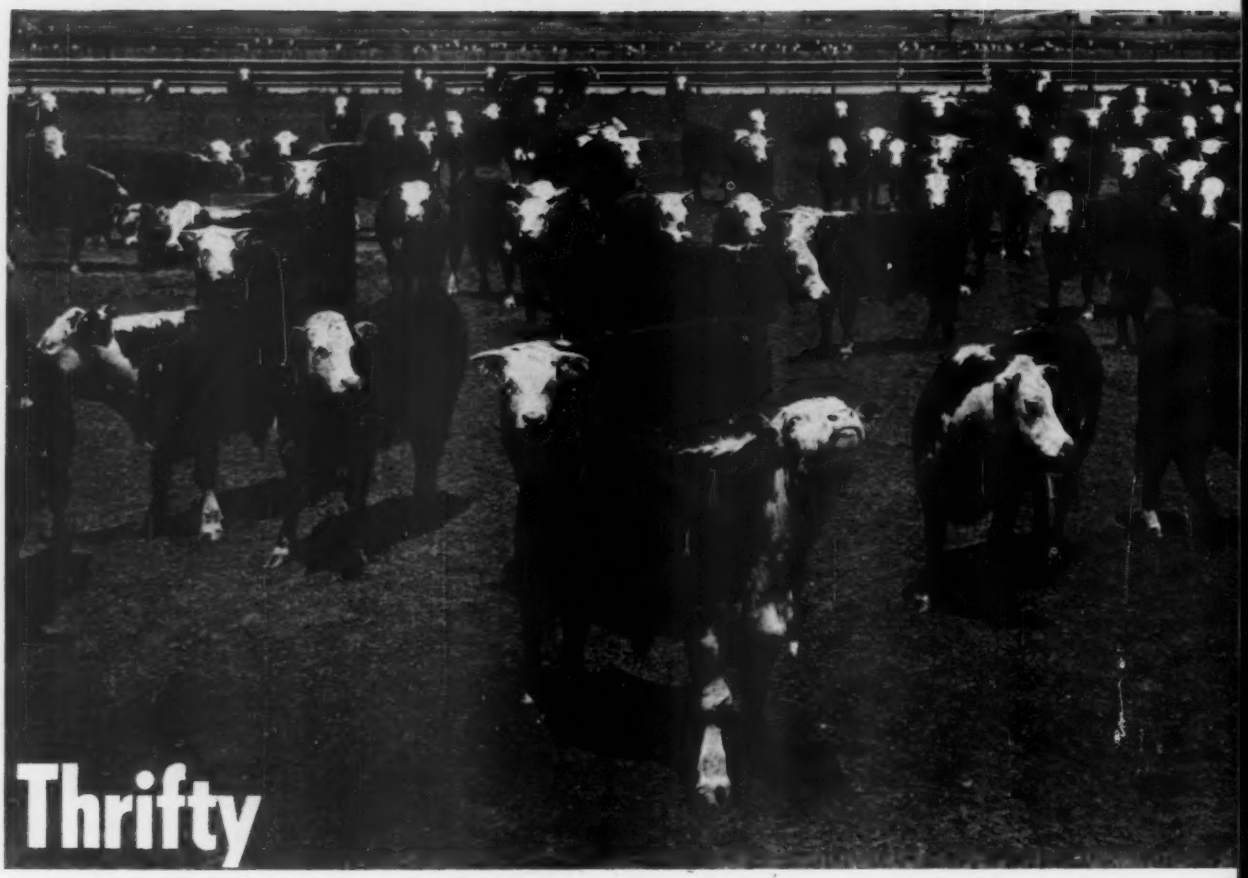
Fortunately the Agricultural Act of 1961 specifically permits marketing orders to be promulgated by the Secretary of Agriculture, with referendums to be held on the regulated pricing of turkeys, something like milk marketing orders are worked in more than 80 milk sheds and like 40 Federal orders on fruits and vegetables are working in 20 states.

The editor of this farm paper does not hesitate to say that he would like to see a turkey marketing order tried. That is, if two-thirds of our turkey growers said so. A trial run of such a marketing order might point the way for broilers and maybe other commodities, too.

In the Balanced Farming Handbook of the University of Missouri the statement is made that the minimum number of poults needed to start on an economical turkey enterprise is 1,000. That will take about 2 hours a day, if you use good production methods. A full-time operation contemplates 5,000. One can expect to average $1.25 income per bird.

As to investment, saying you have the land, figure $1.50 per bird for brooder house and 30 cents for range equipment. It will cost you about $3

Continued on page 24



Thrifty Meat-Type Steers With Quality Cuts

That's what the industry wants said Dr. L. P. Anderson, Manager of Research for Armour & Company at the 56th Annual Meeting of the American Meat Institute.

As supermarkets have grown and brought the pre-packaging of meat to the point of ready acceptance by the consumer, the purchasing of meat has moved steadily into specification buying aimed at uniformity of retail cuts. This trend has reached a level where 81 percent of the supermarkets and major chain sales of meat is being handled by case-ready preparation. The packer must become more selective in obtaining the animals to fill his particular trade requirements. Accomplishment of this objective requires the combined best efforts of packer and producer.

The introduction of carcass contests at the livestock shows, in addition to the traditional showring appearance, placed increasing emphasis on carcass quality and red meat content.

Why should we utilize high-priced land and high-priced feedstuffs to bring animals to market grade merely to turn around and cut that fat off to make the carcass salable.

Dr. DeGraff estimates that our population will reach more than 200 million by 1970. Then we must have at least 25% more beef. This will likely give rise to a twice-a-year breeding—a fall and spring calf crop. The marketing of beef animals will need to begin earlier than before. Producers will need to sell their calves to feeders at not more than the 600-lb. stage. Then the feeders, in turn, may bring cattle to slaughter weight of around 1,000 lbs. by putting on 400 lbs. in the feedlot. This will mean that, on the average, younger beef animals will reach the market at a probable age of 14-16 months.

In our own organization (Armour) we have designed a breeding program based on sound genetic princi-

ples to identify strains of beef cattle which yield carcasses of superior value. We are looking for greater uniformity of market animals, a higher proportion of lean meat or muscling and juicy, tasty, eye-appealing meat. We have also included some goals of concern to the producer—heavier weaning weight, faster rate of gain, and a more efficient feed conversion.

Now let us look at the specifications that we have set down as our target goals:

1. Animals of 900 to 1,100 lbs. live weight, yielding dressed carcasses of 550 to 700 lbs.

2. Firm, white fat cover uniformly distributed, no thicker at the 12th rib than 1/10 inch per 100 pounds dressed carcass weight.

3. At least 48% of the carcass weight in hindquarter.

4. Bright-red, firm, finely textured rib-eye, having, at the 12th rib, at least 2 square inches of lean area per 100 lbs. of dressed carcass weight.

5. Yield of primal cuts per side no less than 22½% for round, 17¾ for loin, and 9¼ for rib.

6. Rate of gain to average no less than 2.25 lbs. per day from birth till slaughter. (1.4 lbs. on dressed carcass basis.)

7. Finely dispersed, abundant marbling of rib-eye, which will have a rating of at least No. 8 (or C) on the existing USDA photographic scale.

8. Tenderness of no less than 6 (medium tender) as determined by a taste panel on a scoring system where No. 1 is extremely tough and No. 8 extremely tender.

9. Kidney and suet not exceeding 2 pounds per 100 of carcass.

10. Deep-red color of bone.

What kind of an animal do these specifications spell out? The type is not a fancy kind and tends to be a bit more on the rangy side, but nevertheless, has good muscling without excessive waste in either the flank, plate or brisket areas. When this animal is ribbed down, the ratio of fat to lean approaches the near ideal, with generous marbling to give us a juicy, tasty cut of meat.

We have set up a research unit to screen a large number of sires and to determine which of them have the outstanding features that we are looking for. This research unit, located in Oklahoma, is known as the Codding-Armour Research Ranch. Here we screen the potential sires by first putting them through a **performance test** to determine their ability to gain economically on standard feed. Then we put them through a **progeny test** by breeding to a random selection of uniform cows sufficient in number to give us a sizable progeny sample that we can run through the packing house and determine the carcass characteristics.

After determining which of the sires has produced the quality carcasses that we are looking for, these sires are then transferred to our Denver unit known as the B.C.I. (Beef Cattle Improvement) Headquarters. Here these sires are kept for semen collection. The frozen semen is stored until breeding time and then used at the ranches which are cooperating with us.

When the calves are born, they are identified by sire and dam origin. A number is assigned which stays with them until they reach the packing house. They are sold at weaning time to the feedlots and there put on feed until they reach an approximate slaughter weight of 1,000 lbs.

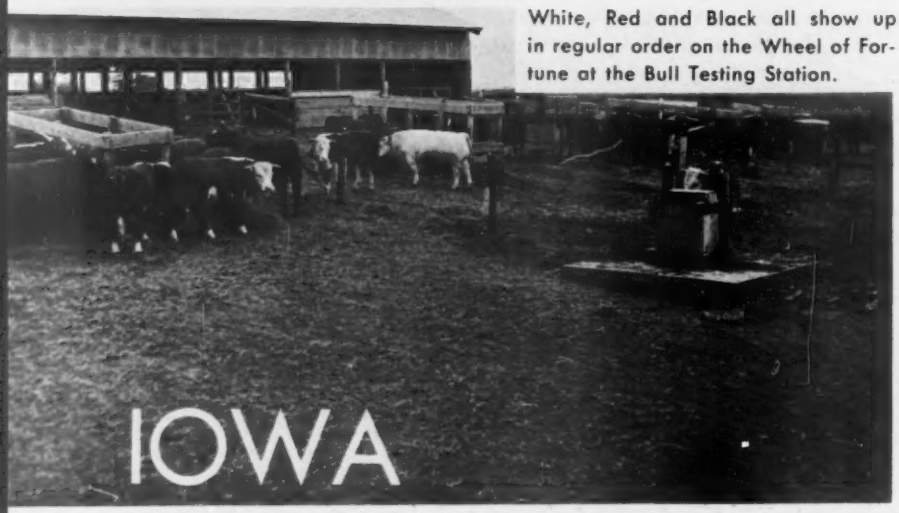
These identified animals, as they go through the standard slaughtering operations, are carefully weighed. At 48 hours, following cold grading, they are ribbed, and the rib grade is determined. A photograph is taken of the rib-eye in order to measure the eye area and fat cover. A photographic record is also made of the carcass side, after which the carcass is broken down into primal cuts and the parts individually weighed. At the same time, our graders are scoring these carcasses individually.

This carcass weighting procedure, along with appropriate calculated heritability weighting factors, permits us to arrive at a final index number that is an expression of a sire's total projected worth. By using these sires to complement the herd traits, we will build up the desirable features in the daughters. Thus, we have a means of weeding out of the herd undesirable cows by replacement with better daughters. The daughter can then be bred to a sire also selected for features to further complement the desirable traits. This provides a built-in, positive herd-improvement program.

This elimination of the undesirable, or, if you will, the unthrifty, unproductive type animal is of fundamental importance to the beef industry, since such animals cost just as much or perhaps more to raise than the thrifty individual that puts on meat instead of excess fat. And what is perhaps even more important in the final analysis is that, as we obtain more of the Meat-type cuts without sacrifice of quality, the consumer will be better satisfied and therefore likely to eat more beef. □

Progeny carcasses hanging in packinghouse cooler at Denver, Colo., after going through feed-gain test. Cut-out data and other carcass information will be taken.

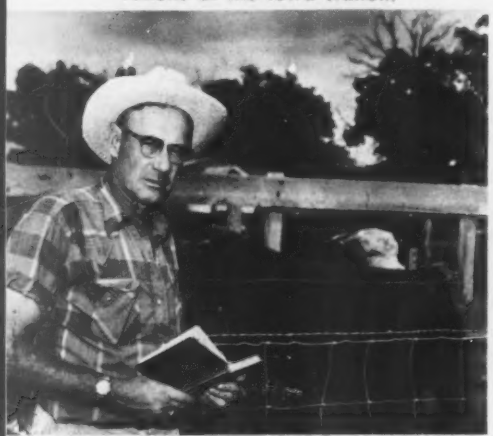
This uniform bunch of replacement heifers are from BCI's breeding program. They are on the Clarance Wattawa ranch in Butte County, South Dakota. They were sired artificially by Hereford sire that had a weaning weight (adjusted) of 590 lbs., and a daily gain till weaning of 2.51 lbs. His 1958 crop of 29 calves average 550 lbs. at 205 days (adjusted weaning weight). Eight of his sons on a 140-day feed test gained 3.03 lbs. per day.



White, Red and Black all show up in regular order on the Wheel of Fortune at the Bull Testing Station.

Bull Testing Station For All Three Breeds

Hay and water free-choice are had by all three breeds between grain rations at the Iowa station.



Melvin Bell is the superintendent of the Iowa Bull Testing Station. Here he checks his records of weight and feed with the animal.

Two miles north and a mile and a half east of Ames, Iowa, (outstanding ag. college town for 92 years) is the bull-testing station that was started by the Shorthorn Association. It is now testing equal numbers of all three beef breeds, Shorthorn, Hereford and Angus. Polled bulls are among the Shorthorns and Herefords being tested. The station warrants the wholehearted support of both purebred breeders and commercial producers. Each group will do well to study the testing results and consider purchase of tested seed stock.

There are three bases of rating these bulls in addition to the pedigree and owner reputation. Equal emphasis is being placed on rate of gain, feed efficiency and conformation. All three traits are known to be hereditary and can be improved through careful selection. The 50 bulls on test last spring completed their official 140-day test on July 19. These bulls were then returned to their respective owners. Then 100 new bulls were brought into the station July 31, accustomed to feed and facilities and began their official 140-day test Aug. 30. The bulls are weighed at the end of each of five 28-day periods of official test.

Bulls placed on test are expected to be of high-Choice conformation. They must also meet minimum home weight requirements. The calves delivered for testing July 31 must have been dropped between Aug. 15, 1960, and Jan. 15, 1961. The calves born last Aug. 15 must weigh not less than 725 lbs. on entry date July 31. Calves born on Jan. 15 this year must weigh 435 lbs. or more. They, of course, must also be purebred bulls and comply with health standards.

The calves are lotted in groups of 15 to 20. The bulls in each lot are neck-chain tied to self feeders twice daily. This permits accurate accounting of all concentrates consumed.

Ration For Weight Making

The ration used is a complete mixed feed. It includes 48% crimped corn, 37% crimped oats, 5% each of wheat bran and beet pulp with added vitamin A, 4½% linseed oil meal and ½% of each trace mineralized salt and steam bone meal. The hay is a mixture of brome and alfalfa and is fed free choice but must not exceed 4# daily. Records made by the 56 bulls that completed their test last January shows that they ate an average of 20.7# daily plus hay. Their average daily gain was 2.5 lbs. but varied from 1.88 to 3.28. All bulls to qualify for sale must gain at least 2.25 lbs. daily. Of the bulls sold last February 15, the average daily gain was 2.62.

Likewise, there is considerable variation in the amount of feed consumed per hundred of gain. The range was 623 to 1,168 and averaged 798. Of the bulls sold, the average was 835 lbs. As might be expected, the auction prices varied. The low price in the Feb. 15 sale was $240 and the top $2,000, the average $598. Current plans call for one bull sale each year, probably again in February of '62.

Progeny Testing Next?

Producers of beef cattle will likely follow the program of successful hog producers and do some progeny testing. In fact, we believe it will be well to start now to supplement the present program by slaughtering 10% of the calf crop from the sires of the bulls on test and record the rib-eye area, fat covering and carcass grade. The two programs can progress together and will likely speed total improvement.

One of the things learned through research in livestock breeding is that real improvement must include selection for all desirable characteristics at the same time. If improvement is made in one character, but at the expense of another, there is little, if any, net gain. Furthermore, selection factors need not oppose each other. We know, for example, that some fast-gaining cattle yield excellent carcasses. We also know that some

Continued on page 26

the COW-CALF PLAN at work

Russell at home.

by Russell des Cognets, Jr.
Shady Brook Farm
on Mt. Tabor Rd. at Lexington, Ky.

Here it is November again. One sees calves weighing 550 to 720 lbs. going to market right off the teat. It is the Kentucky cow and calf plan at work.

The Cow-Calf Plan permits a farmer with limited financial resources to get into the beef business at a minimum of cost and risk. You can sell the annual crop of calves without wintering them. This appeals to tobacco growing farmers whose barns are usually full of tobacco in the early winter. I have 5 acres of burley on a 200-acre farm.

Most of the cow-calf work comes in late winter after tobacco has been stipped and moved away, but before field work can start. But overlooking several of the recommended procedures and doing a half-way job will result in too many 400-lb. calves carrying less than desirable market finish. By doing it right you should market a 90% calf crop or more, with the calves averaging between 600 and 650 lbs. Such calves are in strong demand by all slaughterers because of the consumer preference for lighter, leaner beef that is tender and palatable.

Thirty-six calves averaging 619 pounds at about 9 months were slaughtered at the Kentucky Experiment Station. Their average dressing percentage was 59.4%, and their average carcass grade was low-Choice.

The cows for this plan should be able to produce 20 lbs. of milk daily right on through the whole 9 months lactation period. Thus, cattle of the dual-purpose breeds, such as Milking Shorthorns and Red Polls, are ideally suited to this plan.

The cows must calve regularly. Also it is a good idea to watch the herd closely during the breeding season to be sure the cows are settling in calf promptly.

Breed the cows so that the calves will come during December, January or February. Winter calves have more finish and are heavier at the end of the pasture season than calves dropped during the spring. Also, the winter-calving cow milks less while her calf is too young to use much milk. When the calf becomes old enough to use more milk, spring pasture will stimulate the milk flow of its mother.

Be with your cows at calving time. Cows about to calve should be placed in calving pens of sufficient size and watched more carefully than if running with the herd. If assistance is needed at calving time, the penned-up cow is easier to work with. When the calves are one to three months of age, vaccinate them for blackleg and castrate the males.

Provide plenty of palatable, nutritious pasture throughout most of the year. This is essential because it saves much harvested feed, increases the flow of milk, and results in heavier, better-finished calves at market time. Surplus fall grazing and winter cover crops supply much good feed during the winter.

Salt is needed at all times by the cattle. While trees provide the best shade, sometimes artificial shade may have to be provided.

Creep-feeding pays biggest dividends with the first crop of calves out of heifers, or during drought years. Generally, calves getting plenty of milk and palatable grass need, and will eat, little grain. Cows and calves do need and relish plenty of fresh water at all times. A few minutes time and a few cents worth of materials, such at a D.D.T. back-rubber for fly control, may well add 50 lbs. to a calf's market weight. And every pound added to a calf's weight by that time means not only more weight to sell but also means a fatter calf and therefore one that sells for more per pound.

Sell calves off the teat by early November, as pasture supplies are used up by then, cold weather is at hand, and the calves will soon lose their bloom unless marketed.

Practically all your calves should weigh between 550 lbs. and 720 lbs. by early November. Any lighter calves of good beef breeding and coloring can be sold as feeder calves.

Russell des Cognet's herd sire is this roan Milking Shorthorn bull bred by Noran Shaver of Iowa.

If you may wish to keep your own replacements from beef type cows, use a Milking Shorthorn or Red Poll bull. Steer calves from such crosses will have a good beef type, and the heifers will milk better than those sired by a beef bull. Calfhood vaccination of all heifers retained at about 6 months is a must if Brucellosis is to be controlled.

During the winter dry period for the cows, do not overfeed the herd, since this will not only increase costs but results in too heavy a milk flow at calving time. Too much milk before the calf is ready for it may result in scouring and spoiled udders. Some herdsmen milk out their cows for a week or ten days. In the spring it is well to feed roughage until pastures settle down. Washy pastures stimulate milk flow but do not supply enough feed to maintain the cows' flesh or health.

The Milking Shorthorn Journal, Springfield, Mo., published the figures from my 1958 operation, saying a 600-lb. steer in 255 days—no grain—was not a dream, but a reality.

Although I sold seven of my most select calves as registered bulls, I was able to put on the market Oct. 8, five steers weighing 630 pounds each at 255 days of age with no

Continued on page 26

(little)

FARMER MAKES GOOD

Our Editor visited Guernsey Isle last summer and learned how a little farmer by dedicating himself to the welfare of his animals can make a neat living and prosper in satisfaction, too.

This Island Guernsey gave 11,715 pounds, 4% butterfat, in 365 days, first calf. With second calf she upped it to 21,047 pounds in 350 days.

by Samuel R. Guard

Little farmer, take heart! Big farmer, help him! Because it is greatly to the benefit of your community, state and nation to help the part-time farmer, the sundown farmer, the moonlight farmer, or what you may call him, make a go of it.

If the owner of a bit of farm land, with a comfortable cottage, electrified, upon it, and a paying job in a nearby town, is not a family farmer I don't know who is. Perhaps his wife is a secretary or clerk at the bank, their children in school or home with Grandma. You know plenty of cases like this, I bet. But until now we did not pay much attention to the part-time farmer in toting up our agricultural economy.

On the Isle of Guernsey one day last summer, I learned how a part-time farmer with only 17 acres altogether and 13 milk cows, besides the heifers, can make a good living and have a rich life. Not rich in money, but rich in eager work, comfort, neighborliness and satisfaction with his ever-increasing interest in the lore of his profession. For this farmer, that would be milking cows, tending his garden, watching after his peacocks ("the only pair on this island, sir," he proudly told me) and serving as secretary of the island farmers' organization. That's why I call him a part-time farmer, because it must take time to be secretary of the Guernsey Farmers' Association, though he does have a good wife to help him.

About as Big as Your County

Guernsey Isle is 7 miles long and 3½ miles wide. Sixteen thousand acres, 40,000 people, including us visitors taking our "holiday" as they call it; 2,300 farms including the greenhouses where they grow tomatoes for London.

Well, this man's name is Herbert P. Martel. French, as are all the farmers on Guernsey. In fact, you can almost see France, Cherbourg that is, on a clear day from St. Peter Port, the capital. The other Channel Islands are Jersey, Alderney and Sark. They are British, by choice, and not by conquest.

Guernsey has her own parliament, makes her own laws (including the one that no bovine except a Guernsey may be alive on the island for more than 24 hours until slaughtered—one sure way of keeping the Guernsey breed pure!) and coins her own money. Indeed, I showed you last month on the Round-up page a picture of their three-pence piece with a Guernsey cow right there

where we put Thomas Jefferson. T. W. Vidamour of Le Frances Farm over by the bay at St. Saviour (notice they christen every little farm, take fierce pride in the name) took me out to see the old cow that was model for the coin. I saw "Jesse of Val Plaisant" on tether, and they said she was still giving 9,000 pounds of 5.7 percent yellow milk a year.

After the Royal Guernsey Show in Saumarez Park—which, I must say, was no better than the show of yellow-skinned cattle at many of our state fairs—Mr. Martel put me in his little Austin. Driving on the left side of the road, as in Britain, he darted in and out with 'nary a honk at a speed limit of 35 miles an hour, until we came to an acre and a half of pasture that he had rented. Rye grass, timothy and broad-leaved red clover.

Milk Cows on Tether

A wall of earth 3 feet high topped by a hedge fenced this little pasture. I stepped it off while Herbert and Mrs. Martel finished milking the 10 cows they had tethered there. I did this so I could tell you just how much summer-grazing on lush grass one cow could take. That pasture patch was 103 steps long and 66 steps wide. That's not quite an acre and a half, is it?

Ten beautiful Guernsey cows were tethered there. That's right, tethered, each to an 18-inch iron stake with an inch-and-a-half square top, with an 8-foot hempen rope looped round the cow's horns or loosely tied around her slim, yellow neck if she was dehorned. They lead each cow to the watering trough morning, noon and night and move the stake over so she has fresh new grazing forenoon, afternoon and evening.

Here's where I need some help from some of you bright 4-H Clubbers or Future Farmers who read this journal. You're just starting in geometry? Well then, if the radius is 8 feet long, how many square feet in the circle? Then if you want to make a real problem, how much TDN (total digestible nutrients) if the pasture is knee-high to a Guernsey cow?

Mr. Martel was most particular about "Princess Sheila of the Border," with a record of 53,040 pounds of milk and 3017.38 pounds of fat in the first five years. Ah, she is the dam of "Governor of the Border," the first sire in their artificial insemination co-op.

In that Guernsey pasture lot Herbert Martel also told me about this here heifer, a daughter of "Governor" and therefore the old cow's granddaughter that he bought at an auction sale for $185. She is already giving at the rate of 8,000 pounds a year; paid back the purchase price in five months.

Small Farmer Knows Details

But the point is that Herbert knows what's back of every cow he's got. Way back! Indeed this man knows about almost every one of the old cows on the Island. In the sitting room of his rock-bound cottage, while his wife, who did the milking, was serving us tea like a dairy princess, he showed me a painting of his grandfather's Guernsey Queens, prize herd in 1896—the Beauty family. "Beauty of Pride" was the foundress of the family; then came "Beauty 1st" and "Beauty 3rd." There was a lump in my throat so I didn't ask him about "Beauty 2nd"—probably a bull calf anyhow. He knew of every exportation, practically every cow that had been sent to America to start the breed over here, including "May Rose 2nd."

What I'm getting at is the richness of this part-time farmer's life. He not only gets milk out of his cows, he gets history, literature, science, and art. And certainly I'm not saying you have to do it with Guernseys. The same deep philosophy of farm life can be had by concentrating on Jerseys, Holsteins, Ayrshires, Brown Swiss, Shorthorns, Herefords, Angus, Berkshires, Southdowns, and Shetlands.

The Governor asked us to come up to Government House. I overheard His Nibs ask my farmer friend what was his standard for profitable grazing.

"Sir," replied Mr. Martel, "when I can get 520 gallons per acre I am doing alright."

That's $187.20 an acre at Milk Producers' prices, and this Guernsey milk runs higher'n 3.8 percent.

New Capital For Small Farmer

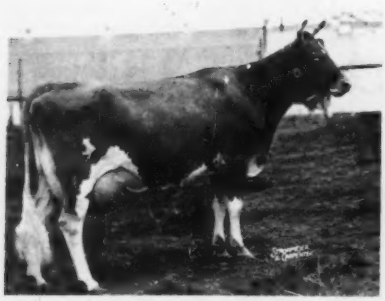
That brings me back home. And here I know that it takes a lot of capital, in most cases credit, to operate a farm, little or big, in these days. But credit is available.

Indeed, I have been much impressed by the way in which the new Agricultural Act of 1961 expands the Farmers Home Administration. Now the part-time farmer can borrow money from FHA to buy additional land even though it will still be less acreage than the average "family farm." He can borrow up to $35,000 to buy brood cows, sows or ewes, also equipment and feed. Before President Kennedy signed the bill the limit was $20,000. FHA farm ownership loans are at 5%. They have averaged $15,460. There are rural housing loans at 4% up to 33 years for building or improving homes, barns and milking parlors.

Veterans with farm experience get lawful preference when considered by the local FHA committee of three farmers. Management aid is supplied the borrower by FHA supervisors. The applicant must not be able to get the necessary credit from other sources. Also emergency loans are available to farmers who need credit as a result of getting hailed out, flash-flooded, or hurt by any natural disaster.

I am convinced that a new day is dawning for the little farmer, the part-time farmer and his family. Incidentally, he can become a top improver of livestock, because he and his family can concentrate on the breed or type they like the most.

(Reprinted from the "RURAL KENTUCKIAN MAGAZINE", AVERY T. JENKINS, Editor, 4515 Bishop Lane, Louisville, Ky. □



This 13-year-old Guernsey cow, "Ideal's Beacon's Rosette," has produced 100 tons of milk on 3X milking for her owner and breeder, Jacob Tanis of Sussex Co., N.J., right up there at the funnel of the New York City milk shed. In 3,957 days in milk she gave 200,125 lbs. of milk containing 9,783 lbs. of yellow butterfat, the breed lifetime record.

Our National Guernsey Show at the Dairy Cattle Congress, Waterloo, Iowa, last month brought out 327 head, compared to 130 heifers, cows and bulls at the Royal Guernsey Agricultural and Horticultural Show on the Island in July. But our American Guernseymen got their start with cattle from little farms described in this article.

New Product, New Pig!

How to add $300,000,000 a year to farmers' pork income

Your pig is a most versatile animal. He can be produced under widely varying conditions and can yield widely varying products. 200-lb. market hogs could be had—in fact they are with us now—that vary from 26 to 33 inches in length of carcass from the first rib to the aitch bone, in thickness of backfat from more than 3 inches to less than 1 inch and in cross-section area of the loin muscle from less than 2 to more than 6 square inches.

In terms of the lean cuts of trimmed ham, loin, picnic and Boston butt, as a percentage of the live weight, market hogs can be found that will vary from 26 to 43%. It is amazing that carcasses varying so widely in composition can be produced from almost the same feeds. At least, nearly the same proportions of corn, milo, soybean meal and tankage would be required in making either kind of carcass.

As I see it, swine producers must concentrate their efforts on the production of animal proteins in the form of lean, nutritious pork with only enough fat to make the lean flavorful and palatable to the consumer. The pressure is not only for a higher protein diet but even stronger for a lower-fat diet.

The time was when the American diet required large amounts of energy and the pig was prized for his

ability to convert farm grains to a food product of high caloric value. Now, with the emphasis on proteins the pig can be equally as useful and efficient as a producer of high-quality animal proteins, if we concentrate our efforts on molding him for this new role.

At the first Swine Industry Conference held at Purdue University in November, 1958, I described what I thought to be the kind of a pig needed to meet our needs in the future. I envisioned that the **butcher hog of the future would be slaughtered at a weight of less than 200 pounds; that he would have less than an inch of backfat; and would yield up to 45-46% of his live weight in the lean cuts of trimmed ham, loin, Boston butt and picnic.** This is a good 10 per cent above the average market hog of 1958. To reach this high yield of lean cuts, we must virtually **eliminate the old-style cuts of jowl squares, clear plate and fat back** and other fat trim and recover this weight as **heavier Boston butts and picnics, heavier loins and thicker, meatier, heavier hams.**

At the time I made my prediction I thought I was plenty optimistic in believing that such a hog could be produced in numbers in 20 years. I am now sure that these goals can be reached, even sooner, if the entire industry works at it diligently. In our state swine evaluation station, outstanding breeder entries of 6 pigs by one sire that have been full-fed in confinement from weaning to a market weight of 200 lbs. have averaged above 43% of their live weight as lean cuts (packer trim). In one group, 201-lb. pigs produced trimmed hams averaging over 17 lbs. in weight.

One may ask, is this improvement worth while? From the standpoint of simply replacing fat with lean or the improvement of lean cut yield from 35 to 40% is worth $3 per hog, at the present market. On approximately 100 million head that will be produced annually in this country, this means an increased animal income of $300 million a year to the industry. This can be accomplished at little extra cost, for it takes no more equipment, feed or labor to raise and process the real meaty kind. A somewhat greater investment in improved breeding stock is required.

Improved Breeding Stock

Much progress has been made in developing a genetically superior hog from the standpoint of lean meat production. Much more is yet to be made. The basic considerations are these: (1) We know the variation in the economically important traits among hogs today. (2) We have reliable estimates of the heritability of the various traits, such as carcass length (60%); backfat thickness (50%); and loin area (30%). (3) From these we can estimate the progress a herd will make if certain selection advantages can be obtained.

We are pretty well convinced that selection pressure should be exerted for less fat, more muscle, more scale and substance, greater development of the more valuable cuts, greater ruggedness and vigor and more rapid and more efficient gains, as well as greater reproductive performance. The evidence seems to be that all of these things are compatible, one with the other, and that progress can be made in all of these items simultaneously. The problem is to identify and retain for breeding those animals possessing the most of the best and to mate them in a constructive manner.

Our tools to measure these traits in breeding animals are the **scales, the backfat probe and visual judgments.** In slaughtered relatives to animals retained for breeding, backfat measurements, loin area measurements, lean cut yields as a percentage of the live weight and other estimates of carcass merit may be obtained. New and more precise measurements of the proportion of lean to fat in animals to be retained for breeding are urgently needed. It is hoped that ultrasonic devices soon can be adopted for widespread use. Any device to more accurately estimate the proportion of fat and lean in the live animal will be a great assistance to breeders in their quest for greater muscling.

There are three widely accepted programs for swine improvement sponsored cooperatively by the purebred associations, state extension services and breeder groups. They are:

(1) Meat certifications.
(2) On-the-farm testing.
(3) Central evaluation stations.

Meat-hog certification is a 3-point program based on **sow productivity, rate of gain and carcass merit.**

The first step for a breeder is to qualify a litter for Production Registry on litter size and weight at a young age—varying with the breed.

The second step is to select two pigs from the P.R. litter for slaughter at a weight between 180 and 200 lbs.

Third, these two hogs must cut carcasses that are 29.0 inches or longer and have more than 4.0 square inches of loin eye or more, and 1.6 inches of backfat or less.

This program has been very effective in identifying the desirable strains within the breeds. This simple standard has been widely accepted by breeders in evaluating their stocks and is widely adapted as a standard for the showring as well.

On-the-Farm Testing

Five breeds as well as several state livestock extension groups have adopted On-the-Farm Performance Programs. These programs are designed specifically to assist breeders in evaluating the various individuals within their own herd on sow performance, rate of gain, feed efficiency and carcass merit. Fifteen pigs out of five or more litters are self-fed as a group from a period roughly from weaning to market weight. At least 10 of these pigs must meet the carcass standards for certification.

Many states have one or more central swine evaluation stations, in which pigs are fed to a weight of around 200-215 pounds. Rules governing these stations vary considerably, but they all yield information on rate of gain, feed efficiency and carcass merit of the entries. Breeders are able to compare their stocks with those of other breeders when fed in a common environment.

All three of these programs give breeders a solid basis on which to evaluate their own herd and lines within their herd. Furthermore, these programs provide authentic data, available to other breeders and commercial producers wishing to improve their herds.

Evidence of the progress made through these stations is shown by recent figures from the Iowa stations. From 1956 to 1961, the backfat on barrows has dropped from 1.62 to 1.53 and on boars from 1.39 to 1.10 inches. Barrow loin eye measurements have improved from 3.36 to 4.14 square inches and ham and loin as a percentage of the carcass weight from 32.8 to 36.9%. In terms of lean cuts as a percentage of the live weight, this is an estimated increase from 33.5 to 37.5%.

Swine Judges Set Standards

In my opinion, information gained through research and through the various programs for swine improvement has been well applied in the showring. As a result, there is generally good agreement between showring decisions and the dollar and cents value of market barrows. Breeding animals are evaluated in a similar way. This is as it should be, for one of the basic functions of the showring is to interpret the findings of research in production and in consumer desires in terms of specific

MORE

New Product, New Pig!

(continued)

ideals or goals for the specific species. The public image of the ideal animal for a specific job is based largely on impressions gained through the showring. Therefore, it is of greatest importance that showring standards be based on sound, economically important considerations.

The standards for meat certification have formed a sound basis for evaluating all breeds. Since there is only one standard of excellence for all breeds, we can expect the various breeds to become more alike from the standpoint of carcass characteristics. Those that cannot measure up are disappearing from the scene.

Lighter Weight Hogs Coming

There are three basic reasons for marketing at lighter weights. The modern meat-type pig of a given weight yields much heavier lean cuts than the fatter pig. Therefore, the desired weight cuts can be obtained from lighter hogs. This is true of all cuts except possibly the belly. Second, hogs tend to deposit fat at a more rapid rate as they mature. Slaughtering them before they move into the fattening stage will aid materially in the production of a leaner product. Third, the amount of feed required per unit of lean product produced increases materially as pigs are carried to heavier weights.

These all add up to the fact that a leaner product in the most desirable weight cuts can be produced most efficiently in a lighter weight hog. Much of the increased efficiency in broiler production is due to the marketing of a lighter-weight bird. The same can be true in the swine industry.

Feeding for Superior Carcasses

Research at several experiment stations has pretty well established the fact that pigs can be produced most economically, in terms of feed required per unit of gain, if they are full-fed on a well-balanced, high-energy ration. Under these conditions, muscular development takes place at the maximum rate. The growth curve of various types of pigs differs somewhat. The small-framed, fat-type pig tends to fatten at an early age, whereas fattening is delayed and minimized in the modern meat-type pig.

Since a good part of the trimmable fat is produced by the pig after he reaches 175 lbs., there are possibilities of improving carcass leanness by supplying adequate nutrients for bone and muscle growth and limiting the energy intake in the final stages to that needed for growth processes with little excess to be stored as body fat. This means some form of limited feeding—either self-feeding a bulky, low-energy diet or limiting the intake of a higher-energy ration. In either case, rate of gain will have to be reduced by about 0.20 of a pound per day to have an appreciable influence on carcass fatness.

Self-feeding a bulky ration has resulted in lower dressing per cent on hogs so fed. The tendency is for the pig to consume more pounds of a lower-energy ration, thus he contains more "fill" at any given time. Pigs that have been limited fed a high-energy ration have yielded well.

By either method, attempts to control carcass fatness through limited feeding have generally resulted in a higher feed cost per unit of gain, plus additional expense for labor and equipment.

To Market, to Market Every Month

I want to mention two points concerning marketing swine. The first has to do with the matching of hog supplies with demand for pork. The need for such an adjustment is obvious. As processors have shortened the curing processes, they have automatically reduced pork inventories. The idea of multiple farrowing (four or more times per year), first promoted by packers, is working well for the industry. Many producers are selling hogs each month of the year. Processors are able to utilize their facilities and labor more effectively. The necessity of large storage holdings—large inventories—is eliminated.

Producers on a multiple farrowing system are able to utilize their facilities and labor more completely and thus can justify greater mechanization of their operations. Since the pig will probably always be used to some extent as a scavenger, variations in the numbers marketed will always probably follow the grain harvest seasons to some extent.

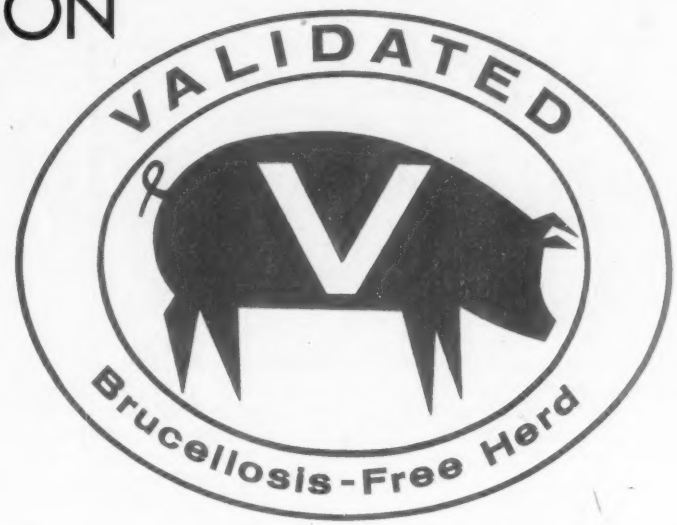
It is difficult to measure the advantages of a more uniform supply of hogs to the industry. There is the advantage of being in neither of two unfavorable positions—that of having to lower prices to "give-away levels" to move product, or that of being unable to supply the market.

Packers are the processors and merchandisers of the products from thousands of farms in your area. The success and financial well-being of large areas depend to a great extent on how well the producing and processing groups work together.

Processors cannot make a top quality product from inferior hogs. Swine producers will not make maximum improvement in the carcass merit of their hogs unless they are encouraged to do so at the market place. Much improvement has been made in the way of marketing hogs on their merit. Considerably more is yet to be made.

The swine producing and pork processing industry is in the process of creating a "new product"—younger, leaner, more nutritious pork. I believe that the industry can meet the challenge of the future if all segments cooperate fully. With a "new product," there is the necessity for creating a "new image" for pork. This task will fall most directly on the processing and merchandising groups. □

VALIDATION OF SWINE HERDS



Blood-test Your Hogs and Get This Sign Up

An intensified effort to eradicate swine brucellosis officially got underway in mid-September. The nationwide program will be carried out jointly by the States and USDA.

Three good reasons for the program are cited by Dr. C. K. Mingle, who heads brucellosis eradication work for USDA's Agricultural Research Service. "First of all," he points out, "swine brucellosis costs the swine industry about $10 million a year. Second, this disease presents a threat of cross-infection to cattle. Third—and highly important—it is a serious hazard to human health."

In the past, Dr. Mingle explained, most cases of human brucellosis, or undulant fever, were contracted from cattle infected with the bovine form of brucellosis. "But now," he said, "the main source of human infection is diseased hogs." Last year, for instance, 65% of all the reported cases of human brucellosis were thought to be of swine origin—compared to 40% only three years ago." In 1959 there were 892 cases of human brucellosis.

Validate Your Herd

The first stage of this intensified swine brucellosis program is based on the "validation" of individual swine herds as brucellosis-free. Herds are validated for one year after all adult animals pass two consecutive negative blood tests. When a herd qualifies, the owner is supplied with an appropriate sign bearing the symbol of validation—identifying his herd as a source of brucellosis-free hogs.

Dr. Mingle pointed out that such a herd will be known as a "Validated Brucellosis-Free Herd." This new term replaces the designation "Certified Brucellosis-Free Swine Herd," which has been used in various state swine brucellosis programs.

"Reason for the change," Dr. Mingle explained, "is that hog producers generally associate the term 'certified' with certification achieved in production testing programs of purebred swine associations—'Certified Litter' and 'Certified Meat Sire', for instance. The word 'validated' is being used in the swine brucellosis program to avoid confusion."

Eventual eradication of the disease in all swine herds is the goal of the program. However, according to Dr. Mingle, major emphasis at first will be on the validation of purebred herds, source of most breeding boars. Swine brucellosis, unlike bovine brucellosis, is spread primarily by infected males, although contact with any infected hogs or with contaminated feedlots and pastures can also spread the disease.

Because symptoms of swine brucellosis vary greatly—and in many cases are blamed on other conditions—the disease exists in many herds without being suspected. Dr. Mingle warned hog producers not to wait for symptoms to appear. "Regular blood testing of all adult animals," he emphasized, "is the only positive way to detect infection."

If a herd blood test does reveal infection the commercial hog producer can validate his herd in four steps: (1) Market the entire herd of swine for slaughter. (2) Clean and disinfect houses and equipment. (3) Replace with stock from validated brucellosis-free herds, placing them on clean ground. (4) Following two consecutive negative tests 90 days apart, the herd is eligible for validation.

Recommended for purebred herds where it is desirable to retain valuable bloodlines this 5-step plan is recommended: (1) Separate pigs from sows at 42 days of age or younger, and isolate. (2) Market infected herd as soon as practicable. If sows are held for later litters, complete isolation is essential. (3) Test the gilts to be used for the following breeding season about 30 days before breeding. Save only those gilts which are negative. Breed only to negative boars. (4) Retest the gilts after farrowing and before removing them from individual farrowing pens. Should reactors be found, they should be segregated from the remainder of the herd. Select only pigs from negative sows for breeding gilts. (5) If herd is not negative at this time, the process is repeated. When the entire herd passes two consecutive negative tests 90 days apart, it becomes eligible for validation. □

New Product, New Pig!

(continued)

ideals or goals for the specific species. The public image of the ideal animal for a specific job is based largely on impressions gained through the showring. Therefore, it is of greatest importance that showring standards be based on sound, economically important considerations.

The standards for meat certification have formed a sound basis for evaluating all breeds. Since there is only one standard of excellence for all breeds, we can expect the various breeds to become more alike from the standpoint of carcass characteristics. Those that cannot measure up are disappearing from the scene.

Lighter Weight Hogs Coming

There are three basic reasons for marketing at lighter weights. The modern meat-type pig of a given weight yields much heavier lean cuts than the fatter pig. Therefore, the desired weight cuts can be obtained from lighter hogs. This is true of all cuts except possibly the belly. Second, hogs tend to deposit fat at a more rapid rate as they mature. Slaughtering them before they move into the fattening stage will aid materially in the production of a leaner product. Third, the amount of feed required per unit of lean product produced increases materially as pigs are carried to heavier weights.

These all add up to the fact that a leaner product in the most desirable weight cuts can be produced most efficiently in a lighter weight hog. Much of the increased efficiency in broiler production is due to the marketing of a lighter-weight bird. The same can be true in the swine industry.

Feeding for Superior Carcasses

Research at several experiment stations has pretty well established the fact that pigs can be produced most economically, in terms of feed required per unit of gain, if they are full-fed on a well-balanced, high-energy ration. Under these conditions, muscular development takes place at the maximum rate. The growth curve of various types of pigs differs somewhat. The small-framed, fat-type pig tends to fatten at an early age, whereas fattening is delayed and minimized in the modern meat-type pig.

Since a good part of the trimmable fat is produced by the pig after he reaches 175 lbs., there are possibilities of improving carcass leanness by supplying adequate nutrients for bone and muscle growth and limiting the energy intake in the final stages to that needed for growth processes with little excess to be stored as body fat. This means some form of limited feeding—either self-feeding a bulky, low-energy diet or limiting the intake of a higher-energy ration. In either case, rate of gain will have to be reduced by about 0.20 of a pound per day to have an appreciable influence on carcass fatness.

Self-feeding a bulky ration has resulted in lower dressing per cent on hogs so fed. The tendency is for the pig to consume more pounds of a lower-energy ration, thus he contains more "fill" at any given time. Pigs that have been limited fed a high-energy ration have yielded well.

By either method, attempts to control carcass fatness through limited feeding have generally resulted in a higher feed cost per unit of gain, plus additional expense for labor and equipment.

To Market, to Market Every Month

I want to mention two points concerning marketing swine. The first has to do with the matching of hog supplies with demand for pork. The need for such an adjustment is obvious. As processors have shortened the curing processes, they have automatically reduced pork inventories. The idea of multiple farrowing (four or more times per year), first promoted by packers, is working well for the industry. Many producers are selling hogs each month of the year. Processors are able to utilize their facilities and labor more effectively. The necessity of large storage holdings—large inventories—is eliminated.

Producers on a multiple farrowing system are able to utilize their facilities and labor more completely and thus can justify greater mechanization of their operations. Since the pig will probably always be used to some extent as a scavenger, variations in the numbers marketed will always probably follow the grain harvest seasons to some extent.

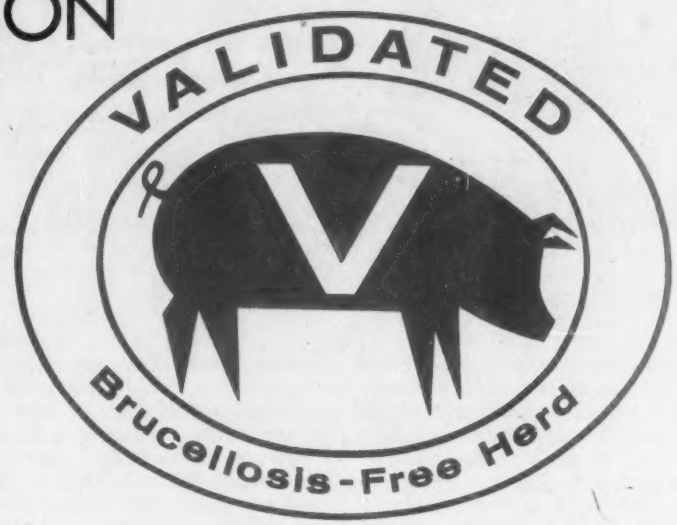
It is difficult to measure the advantages of a more uniform supply of hogs to the industry. There is the advantage of being in neither of two unfavorable positions—that of having to lower prices to "give-away levels" to move product, or that of being unable to supply the market.

Packers are the processors and merchandisers of the products from thousands of farms in your area. The success and financial well-being of large areas depend to a great extent on how well the producing and processing groups work together.

Processors cannot make a top quality product from inferior hogs. Swine producers will not make maximum improvement in the carcass merit of their hogs unless they are encouraged to do so at the market place. Much improvement has been made in the way of marketing hogs on their merit. Considerably more is yet to be made.

The swine producing and pork processing industry is in the process of creating a "new product"—younger, leaner, more nutritious pork. I believe that the industry can meet the challenge of the future if all segments cooperate fully. With a "new product," there is the necessity for creating a "new image" for pork. This task will fall most directly on the processing and merchandising groups. □

VALIDATION OF SWINE HERDS



Blood-test Your Hogs and Get This Sign Up

An intensified effort to eradicate swine brucellosis officially got underway in mid-September. The nationwide program will be carried out jointly by the States and USDA.

Three good reasons for the program are cited by Dr. C. K. Mingle, who heads brucellosis eradication work for USDA's Agricultural Research Service. "First of all," he points out, "swine brucellosis costs the swine industry about $10 million a year. Second, this disease presents a threat of cross-infection to cattle. Third—and highly important—it is a serious hazard to human health."

In the past, Dr. Mingle explained, most cases of human brucellosis, or undulant fever, were contracted from cattle infected with the bovine form of brucellosis. "But now," he said, "the main source of human infection is diseased hogs." Last year, for instance, 65% of all the reported cases of human brucellosis were thought to be of swine origin—compared to 40% only three years ago." In 1959 there were 892 cases of human brucellosis.

Validate Your Herd

The first stage of this intensified swine brucellosis program is based on the "validation" of individual swine herds as brucellosis-free. Herds are validated for one year after all adult animals pass two consecutive negative blood tests. When a herd qualifies, the owner is supplied with an appropriate sign bearing the symbol of validation—identifying his herd as a source of brucellosis-free hogs.

Dr. Mingle pointed out that such a herd will be known as a "Validated Brucellosis-Free Herd." This new term replaces the designation "Certified Brucellosis-Free Swine Herd," which has been used in various state swine brucellosis programs.

"Reason for the change," Dr. Mingle explained, "is that hog producers generally associate the term 'certified' with certification achieved in production testing programs of purebred swine associations—'Certified Litter' and 'Certified Meat Sire', for instance. The word 'validated' is being used in the swine brucellosis program to avoid confusion."

Eventual eradication of the disease in all swine herds is the goal of the program. However, according to Dr. Mingle, major emphasis at first will be on the validation of purebred herds, source of most breeding boars. Swine brucellosis, unlike bovine brucellosis, is spread primarily by infected males, although contact with any infected hogs or with contaminated feedlots and pastures can also spread the disease.

Because symptoms of swine brucellosis vary greatly—and in many cases are blamed on other conditions—the disease exists in many herds without being suspected. Dr. Mingle warned hog producers not to wait for symptoms to appear. "Regular blood testing of all adult animals," he emphasized, "is the only positive way to detect infection."

If a herd blood test does reveal infection the commercial hog producer can validate his herd in four steps: (1) Market the entire herd of swine for slaughter. (2) Clean and disinfect houses and equipment. (3) Replace with stock from validated brucellosis-free herds, placing them on clean ground. (4) Following two consecutive negative tests 90 days apart, the herd is eligible for validation.

Recommended for purebred herds where it is desirable to retain valuable bloodlines this 5-step plan is recommended: (1) Separate pigs from sows at 42 days of age or younger, and isolate. (2) Market infected herd as soon as practicable. If sows are held for later litters, complete isolation is essential. (3) Test the gilts to be used for the following breeding season about 30 days before breeding. Save only those gilts which are negative. Breed only to negative boars. (4) Retest the gilts after farrowing and before removing them from individual farrowing pens. Should reactors be found, they should be segregated from the remainder of the herd. Select only pigs from negative sows for breeding gilts. (5) If herd is not negative at this time, the process is repeated. When the entire herd passes two consecutive negative tests 90 days apart, it becomes eligible for validation. □

GLEANING Lambs in Cornfield

Returns can be increased by $10 an acre or more; a nice income from a grain production by-product many of us consider not economically salvagable.

Any program that can increase returns by $10 or more an acre deserves a second look. Many farmers consider that stover is a necessary by-product of grain production and is not economcally salvageable. Yet cattle and sheep can convert this roughage into quality fiber and nutritious foods.

Feeder lambs are somewhat better for gleaning than other livestock, because they can be turned into standing corn of the commonly used hybrids without severely damaging the grain yields. They can also pick up the grain shattered and dropped by a picker-sheller during harvest, while cattle would have to pass it up.

By letting lambs glean small grain stubble and cornfields, some producers have overcome the weak price spread between feeder lambs and slaughter lambs. Occasionally lambs have reached market weights and finish without requiring additional harvested feeds.

Feeder lambs have been used experimentally to glean cornfields on the Animal Science farm at Urbana for 6 years. The following recommendations are based on the results:

Processing the Lambs

If feeder lambs are not adequately processed before being turned into the cornfield, their performance may be poor. The lambs should have a few days in drylot to recover from shipping fatigue. During this time they should have access to good-quality hay (preferably not more than 50 percent legume), water, and minerals. They should be crotched or shorn, vaccinated against enterotoxemia, implanted with 3 milligrams of stilbestrol, drenched for internal parasites, and dipped for external parasites.

The lambs may be turned directly into standing corn after they have been processed and have recovered from shipping fatigue. For post-harvest gleaning, however, they should not be turned into the cornfield until at least 2 weeks after they have been vaccinated for entertoxemia. Some producers use this 2-week period to get the lambs on a full feed of grain. If this has not been done, the lambs should be filled with some dry feed just before they are turned into the cornfield.

"Well, all we need now is a cornfield."

"Yes, sir, here 'tis."

Stocking Rate per Acre

Several factors determine the number of lambs that will give maximum utilization without over-stocking. These include the amount of forage in the lower corn leaves and the interrow growth (grass, weeds, or crops), which in turn are affected by soil fertility, climatic conditions, and plant populations. The predicted date of harvest should also be considered. Stocking rate after harvest will depend on the amount of grain dropped because of insect damage and inefficient picking.

In the experiments on the Animal Science farm, the number of lambs varied from 2 to 14. It appeared that 2 to 4 lambs was a reasonable stocking rate for a good corn growing season. Within limits, fewer lambs per acre will result in more gain per lamb but less gain per acre.

"When the cornsilks are dry and the corn is in the dough stage" is a commonly accepted rule of thumb for turning lambs into cornfields for preharvest gleaning. The experimental lambs were turned into the fields on various dates between Aug. 10 and Aug. 23, and remained until they had gleaned the grain dropped during harvest or until they had reached market weight.

Livestock Gains per Acre

During the 6 years, lambs were turned into a total of 18 cornfields for preharvest gleaning. Lamb gains per acre varied from 32 to 84 pounds with an average of 54 pounds. Valued at 20 cents a pound, the average preharvest gain was worth more than $10.

Postharvest gains averaged slightly more than 70 pounds, or about $14 an acre. These postharvest gains were probably higher than could normally be expected, because they included two seasons when corn borers caused a high corn drop.

In general, gleaning did not cause great reductions in yield. Several preharvest-gleaned cornfields yielded

more than 100 bushels of 15-percent moisture corn per acre.

Shearing and Stilbestrol Implants

Shearing and implanting with 3 milligrams of stilbestrol increased average gains. Lambs must have access to minerals while gleaning. Equal parts of salt, limestone, and bonemeal make a good, economical mixture.

Judging from the chemical composition of corn forage, one would expect protein supplements or grain, or both, to be beneficial during the preharvest and postharvest periods. In trials at Urbana, however, neither linseed meal nor alfalfa meal pellets increased gains. These results are not based upon enough data to rule out supplements under all conditions. Some lamb feeders have reported good results from permitting lambs to pass freely back and forth between the cornfield and a nearby meadow, stubble field, or pasture. It is frequently advisable to provide some good-quality hay during the post-harvest gleaning period—especially if the fields were gleaned closely before harvest.

A convenient water supply is essential for good results, although it is sometimes hard to provide.

Finishing Lambs in Drylot

The transition from the post-harvest cornfield to drylot for finishing should be made with extreme care. If lambs remain in the cornfield for a few days after the grain has been fully gleaned, they will probably overeat when given free access to corn in drylot.

Removing the lambs from the field before they have gleaned all the corn will greatly reduce the risk of overeating. Another method of reducing risk is to put a grain-filled self-feeder in the field a few days before all the grain is gone.

The ideal situation on many farms would be to eliminate the need for finishing in drylot. This might be done by stocking the fields at a rate that would enable the lambs to reach market weight when most of the grain is gone. Remaining feed might then be gleaned by breeding animals.

A satisfactory method of finishing in drylot is to feed shelled corn in a self-feeder, and roughage (silage or hay) in silage bunks or hay racks. If the roughage is nonlegume, protein supplement, fed at a 10- to 15- percent level in the corn, is recommended. Minerals should be continued during the finishing period.

E. E. HATFIELD, B. B. DOANE, and U. S. GARRIGUS, University of Illinois. □

Eradicate Hog Cholera From U.S.A.

Public Law 87-209 authorizing the U. S. Department of Agriculture to undertake a broad Federal-State effort to eradicate hog cholera was passed by Congress and signed by President Kennedy.

USDA's Animal Disease Eradication Division will administer Federal phases of the program in cooperation with states that wish to participate. With the incidence of hog cholera at a 13-year low, the time is ripe to attempt eradication.

The new law permits the Secretary of Agriculture to establish a 12-member advisory committee. It also authorizes USDA to prohibit or restrict interstate movement of virulent hog cholera virus, sometimes used to inoculate animals. Inoculation with the virulent virus is considered dangerous. Safe vaccines that confer immunization more effectively are available. Many states already ban or restrict the use of live viruses for immunization.

In addition to controlling use of virulent hog cholera virus, animal disease officials consider the following measures essential to eradication: (1) Heat treatment of garbage fed to hogs, combined with other sanitation practices; (2) destruction of infected and exposed animals and payment of indemnities to owners to compensate for these losses; (3) control of animal shipments within and across State lines; (4) prompt reporting of new hog cholera outbreaks; (5) increased vaccination, with licensed vaccines, in areas with high disease incidence; (6) keeping the swine industry informed on progress of the campaign; and (7) research to improve eradication techniques.

Meetings Will Be Held

Before the campaign is started, meetings will be held in various states to evaluate local situations and determine the degree of Federal assistance needed to adequately supplement State programs, which will involve enforcement of state laws and regulations pertaining to reporting the disease, quarantining of infected and exposed premises, and inspection of premises. USDA will enforce interstate laws and regulations, cooperate in inspections, assist in diagnostic work, train specialists in eradication techniques, and share the costs of surveys and traceback inspections necessary to determine the origin of outbreaks and likelihood of the disease spreading.

Hog cholera is an infectious, contagious disease that affects only swine. The disease, which is caused by a virus, is nearly always fatal, since less than 5% of the swine that become infected survive. The first recognized outbreak in the United States occurred in Ohio, in 1833. By 1887 it had spread to 35 states. The disease is now prevalent throughout the United States, and is found in all foreign countries producing swine with the exception of those where effective eradication programs have been undertaken. As in Canada.

The only sure way to diagnose the disease is through laboratory tests. However, cholera may be suspected if hogs show any of the following signs:

Fever—often 105° F., or higher. Temperature usually stays above normal for several days, then gradually drops, often becoming subnormal . . . Loss of appetite. Pigs may appear depressed and become inactive. . . . Pig's legs may be half bent, he may stagger or sway and eventually collapse in any position. Sick pigs may tend to pile on one another. . . . Fits of convulsions may occur. . . . Skin may have a reddish or purplish tinge.

Pigs may be constipated in early stages of infection. Later, manure may be yellowish gray and resemble diarrhea after animal has been sick a day or more. Diarrhea often gets progressively worse. . . . Vomiting may occur. . . . Eyes may have a watery discharge during early stages of the disease. Later this discharge becomes thicker and gums the eyelids together.

About $4 million in Federal funds will be required annually for the first one or two years, about $10 million for the next four or five years as the campaign reaches a peak of activity, and gradually reduced amounts for four or five years after that. Thus, it is believed that total federal costs of eradication will amount to less than two years of losses from hog cholera at the present rate of $50 million annually. At present, immunization in the United States is costing U.S. Swine producers about 45 cents per pig marketed. Successful eradication in Canada has reduced the continuing costs of maintaining that country's freedom from the disease to a half cent per pig marketed.

The value of the foreign market lost to U. S. producers because of hog cholera is estimated to be $15 million annually. Eleven countries now ban or restrict pork imports from the United States. □

WHAT'S NEW/S?

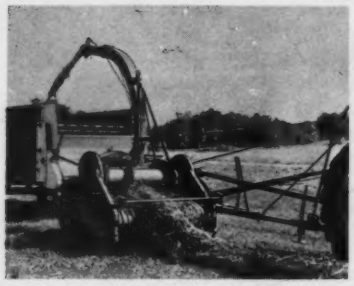
Feeders not ready to take the big step into full automation will be interested in the portable feed maker and self-unloading wagon illustrated below. It's the Series 90 Rol-N.Mix manufactured by **Peerless Equipment Company, Inc.**, of Joplin, Missouri. The Rol-N-Mix provides a practical step toward better feed handling.

Killing sagebrush by helicopter spraying may increase productivity of grazing lands as much as three times, according to reports released at Palo Alto, California. The picture above shows ground crew ready to fill helicopter mounted spray tanks. The regeneration of natural perennial grasses which have been choked out by sage is an increasing activity of U.S. Forest Service range management and of western cattle ranchers faced with rising land costs. (Courtesy of Hiller Aircraft Corp.)

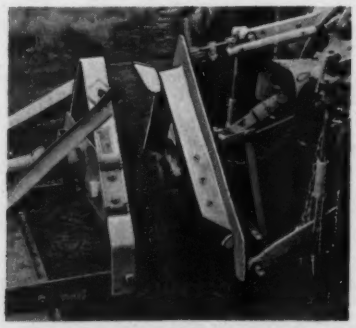
World manufacturing and marketing rights to a revolutionary haymaking invention have been acquired by **Massey-Ferguson**, according to Albert A. Thornbrough, president. The machine compresses hay into dense wafers approximately 2" x 2" and is the key to a radically new system of making hay. With the system, hay can be cut, cured, packaged, loaded, stored, unloaded and fed entirely by mechanical means, said Mr. Thornbrough. A great reduction in man and tractor hours can be expected with this new system.

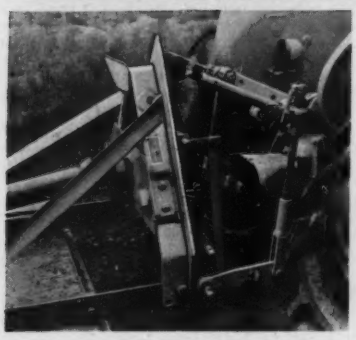
The new model WA-6 Pride of the Farm Hog Waterer above has been introduced by the **Hawkeye Steel Products, Inc.**, Waterloo, Iowa. The WA-6 features rugged cast iron construction for dependable performance in the feedlot. The waterer serves about 80 head of hogs.

WARNER BROODER CORP., North Manchester, Indiana, is introducing their new Spun-Line round hog feeder with a 15-year guarantee on the spun-galvanized steel one-piece trough. The feeder (shown below) is available in 8 and 12 door basic models. Hopper sections may be added to furnish capacities ranging from 18 to 81 bushels. Features include: trough with design tested cone to assure proper feed flow; Even-Flow Feed Regulator with single-screw regulator lock; Warner-designed feed flow control; optional agitators; one-piece heavy galvanized spun steel cover with new rod-type hinge that permits full opening and positive closing with one hand.



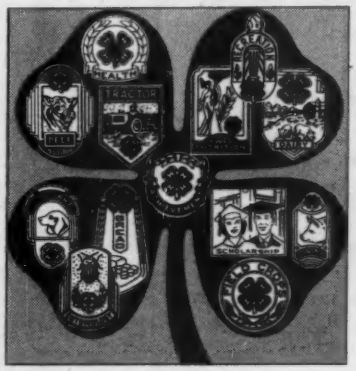
Two all new Forage Harvesters have been announced by the **Papec Machine Co.** of Shortsville, New York. The machines are of simple design and rugged construction and assure high capacity of uniformly cut materials at low power cost. Quick-couple hay, row crop, 2-row crop, and direct-cut attachments are available. Model 35F is shown above with hay attachment.



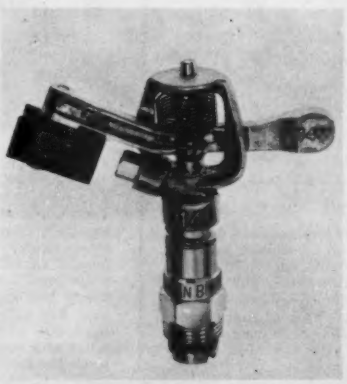


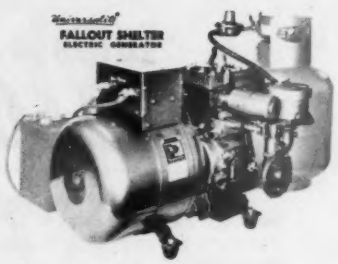
The new automatic Insta-Hitch system (shown above) is manufactured by the **Powell Pressed Steel Company,** Hubbard, Ohio. The device offers tractor operators a means of coupling onto equipment in a matter of seconds without leaving the tractor seat. International Harvester dealers are distributing the systems which may be applied to all IH tractors as well as other equipment, attachments and all other three-point tractors.

The 4-H Club county medal shown here will be earned by more than 50,000 boys and girls who have done outstanding work in one of the 12 different 4-H award projects represented. Altogether, there are nearly 60 national 4-H projects and scholarship programs in which 2.3 million club members participate.



A new series of full-circle sprinklers designed to meet under-tree sprinkling requirements is being introduced by the **National Rain Bird Sales & Engineering Corporation,** Azusa, California. Model 14 series Rain Birds are available with regular or low-angle nozzles and have an exceptionally low precipitation rate. They may be ordered with regular bearings or with Rain Bird's "TNT" bearings, recommended where sprinklers are subject to extreme wear from abrasive water or sand.





The **Wincharger Corporation,** subsidiary of Zenith Radio Corporation, Souix City, Iowa, has designed a new series of emergency electric generators to provide power for the basic necessities of safe survival in family fall-out shelters. These generators provide independent electric power for lighting, ventilation, radio, hot plate, and even a refrigerator. The units are powered by liquified petroleum (LP) fuel for dependability and maximum safety. These Universalite models need not be operated continuously, yet essential lighting and ventilation can have uninterrupted electric power.

Large animals can be anthetized more easily in the field with this machine designed by the **National Cylinder Gas Division** of the **Chemetron Corporation,** Chicago, Illinois. The machine was designed for easy portability by the veterinarian and with its oxygen and baralyme supplies, the unit weighs less than 50 lbs.

In Case Of
FALLOUT

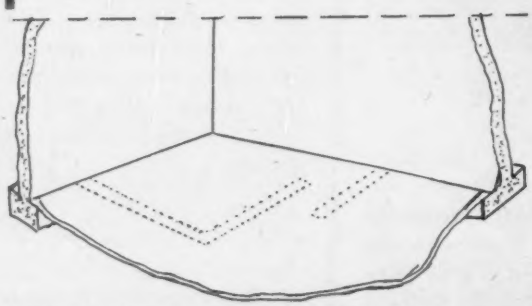
Do-it-yourself instructions are illustrated here for building the basement family fallout shelter to the standards recommended by the office of Civil Defense Mobilization.

Since eight inches of concrete is necessary for effective shielding, the walls and the roof must be eight inches thick. Solid block is better, but if it is not available hollow block may be used.

It is essential, however, to fill the spaces in hollow blocks with sand or mortar.

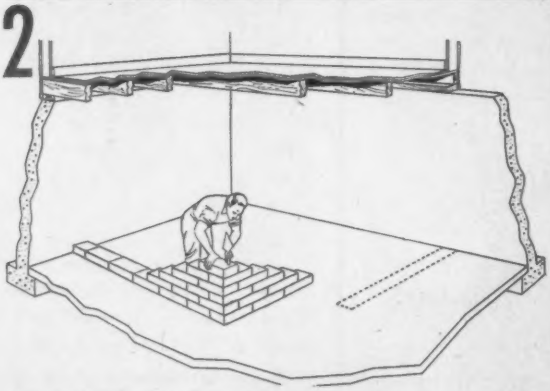
The ideal block for the shelter is solid concrete and measures 16 inches long, eight inches wide and four inches in height. The lumber required consists of four-inch-by-four-inch posts, two-inch-by-four-inch joists and one-inch sheathing on which the ceiling block rests.

1



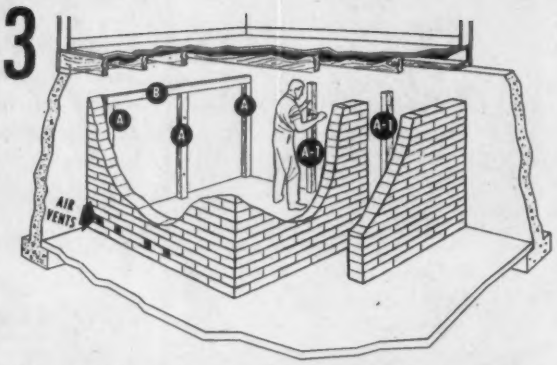
If possible, choose a corner of the basement that has no window. If a window is unavoidable, it will have to be properly covered later. Now take a piece of chalk and, allowing 10 square feet of floor for each occupant, mark guidelines on the floor where the L-shaped wall and the baffle wall of the shelter will be located. Set your first row of solid concrete blocks in about three-eighths of an inch of wet mortar along the guidelines, using a level and a plumb line, if possible.

2



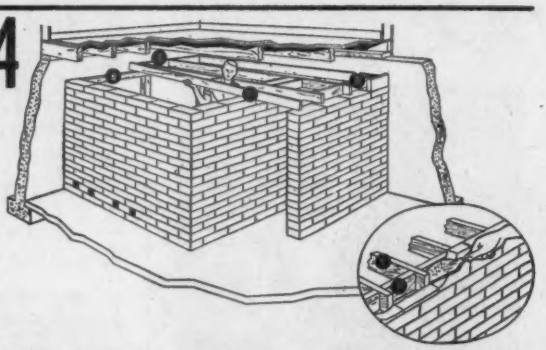
Next raise the corner of the L-shaped wall about six blocks high. Now start up with the rest of the L-shaped wall, leaving four or five holes in the second row of blocks for ventilation. When the wall is level with the corner again, raise the corner and continue in the same manner until the L-shaped wall is about 16 inches from the basement ceiling. This 16-inch space is necessary for the later construction of the shelter roof. You will not set the top row of blocks until you have completed the roof.

3



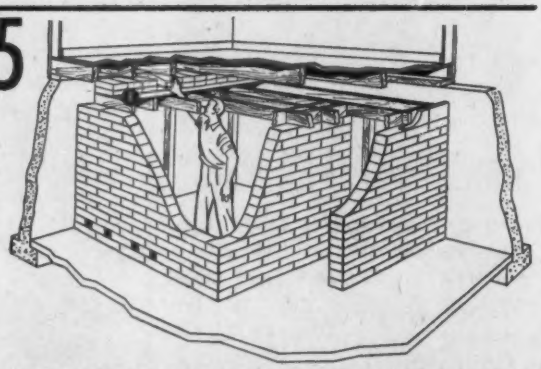
Now build your baffle, the wall which protects the shelter's entrance. Raise it to the same height as the L-shaped wall. Next, by means of half-inch anchor bolts, fasten the four-by-four-inch posts marked A and A-1 to the basement walls. Notice that the beam marked B (also four-by-four) is nailed to the top of the posts marked A. This combined height is the same as the height of the posts marked A-1. The mortared joints should now be given at least 24 hours to dry.

4



The roof supports (marked C) are installed after the walls have had a chance to dry. They are two-by-six-inch beams set edgeways on 13-inch centers. Wood braces marked D hold them in place. At the entrance side of the shelter each roof beam rests on the inside four inches of the block wall. The outside four inches is filled by mortaring four-inch blocks on edge. The wood braces marked D are placed flush with the inside of the wall. Space between the braces and four-inch blocks is filled with mortar to complete the wall thickness needed for radiation shielding. See inset for details.

5



The roof boards marked E can now be placed. They can be of one-inch dressed lumber—four, six or eight inches wide. Slip the first two roof boards into place from outside the shelter. From inside the shelter, reach through between the roof beams to nail the roof boards in place. Next place the concrete roof blocks on the roof boards. They need not be mortared but must total eight inches of concrete roof. That is, two flat layers of four-inch blocks. If eight-inch blocks are used the hollow spaces must be filled with sand or mortar. Next add two more roof boards, cover with blocks and continue until the last blocks are placed from outside the shelter.

VITAL TOPICS IN BARN & FEEDLOT

Rat-Proof Cribs . . .

One rat can destroy 3 bushels of corn annually; rats can jump about 2 feet in the air and burrow 3 feet under ground. Though their teeth are sharp, they can't gnaw through 24 gauge metal sheets or good grade concrete.

Elevate the crib floor 2 or more feet off the ground and keep it clean underneath. If your crib has a poor wooden floor, better cover with sheet metal. If crib floors aren't elevated sufficiently, protect the sides with a 2-foot band of ¼-inch hardware cloth.

Rats and mice like open doors. Line door frames with metal sheathing the same height as the rat proofing on the sides. Keep doors closed.

Don't undo a good rat proofing job by leaving rat ladders. Rodents can easily scramble up tool handles, boards leaning against the crib, machinery and stacked materials. Don't forget to repair any holes in wire mesh or rusted out spots in metal flushing.

Finally, reduce the number of rats and mice around the crib by removing unnecessary junk piles, stacking materials at least 18 inches off the ground and keeping garbage or other rat food in metal containers.

If bait stations are used, maintain a constant supply of anticoagulant-poisoned bait.—G. C. ODERKIRK, U. S. Fish & Wildlife Service. □

F.H.A. Loans

The special livestock loan program of the Farmers' Home Administration has been extended through Dec. 31. Eligible applicants are farmers and ranchers who are established producers and feeders of cattle, sheep and goats but who are temporarily unable to obtain from other lenders the credit needed to continue their normal livestock operations. Producers may use funds to buy or produce feed, obtain grazing permits, move livestock to better feed or grazing areas, buy replacements, and carry out other measures to maintain foundation herds and flocks. Loans are repayable from 1 to 3 years at 5% interest. Since the beginning of the special livestock program in 1953, a total of 4,400 farmers and ranchers have borrowed nearly $90 million. □

Point Kernels Right

Now it's oriented corn, of all things. Illinois agronomists are cooperating with a commercial farmer in planting oriented corn. The farmer has applied for a patent on an attachment to plant corn by placing the kernels in the soil all in the same direction. The object is to allow more sunlight to strike the leaves when corn is planted this way. The agronomists are comparing yields of conventionally planted corn and oriented corn.

Dairy scientists at Illinois had their second year of work with high-population corn. They harvested both dwarf and regular corn, planted at the rate of 160,000 plants per acre. Workers at the Dixon Springs farm also planted corn thickly for silage and are running feeding tests on it. □

Distinctive Agriculture

It takes much longer to fire up an agricultural enterprise than to fire up a furnace. Months are involved to increase production of grain or to give rise to baby calves and little pigs. Agriculture cannot say, "this week we will produce 100 bushels of corn and will charge $2.00 per bushel for it." There are always the uncertainties of price, weather, insects and disease.

Agriculture is a business of its own and in no way can it be compared with other enterprises. —HARRY SWARTZ, Champaign, Co., Ill. □

Overall Purebred Society

Paul Swaffar, secretary of the American Hereford Association, Kansas City, is president of the National Society of Livestock Record Associations, representing all segments of the purebred livestock industry. Vice-President is Prof. W. L. Henning, secretary of the American Southdown Association, 212 S. Allen St., State College, Pa. Secretary-Treasurer is Allan C. Atlason, 3964 Grand Ave., Gurnee, Ill. Directors are as follows:

Horses, Howard Linger, secretary, American Quarter Horse Association, Amarillo, Tex. Robert Dallmeyer, president, Palomino Horse Breeders of America, Box 324, Jefferson City, Mo.

Swine: R. E. Judd, secretary, United Duroc Association, Peoria 3, Ill. Gene Mason, secretary, American Berkshire Association, 601 W. Monroe St., Springfield, Ill.

Sheep: Prof. W. L. Henning and Roy Gilman, secretary, American Hampshire Sheep Association, Stuart, Ia.

Dairy Cattle: Roy Schooly, secretary, American Milking Shorthorn Society, 313 S. Glenstone Ave., Springfield, Mo. Robert H. Rumler, secretary, Holstein-Friesian Association, Brattleboro, Vt.

Beef Cattle: Don Chittenden, secretary, American Polled Hereford Association, 4700 E. 63rd Street, Kansas City, Mo., and Paul Swaffar.

Director at Large: Frank Richards, secretary, American Angus Association, 3201 Frederick Blvd., St. Joseph, Mo. □

Pig Success in a Nutshell

When you want to find out the ingredients of success you go to those whose practices achieve success. In Ford, Livingston, Tazewell and Woodford counties, Illinois, 30 top hog producers have listed their feeding and management practices which raised average income to high income.

What details of the hog business make the biggest difference between high profits and average income? (1) High average litter size (2) Hand-feed the breeding herd (3) Buy boars with production records.

Twelve of these farmers farrowed 4 times a year, 11 twice, 3, 6 times a year, 2 farrowed every month and one farrowed 5 times a year. They vaccinated for cholera, wormed the pig crop, injected iron into baby pigs, castrated boar pigs under 4 weeks, marked litters for selecting gilts, and vaccinated pigs and sows for erysipelas. □

THANKS

Continued from page 7

to $5 cash per turkey for feed, poult, etc., to produce a marketable bird, depending on whether they are small or large type. They should be finished and ready for market in 26 weeks, with about 4½ lbs. of feed required for each pound of live weight.

An Eastern States feed man says a turkey grower can discover many ways to lose money on his flock, and one of the surest ways is to hold the birds just a week or so too long. Feed, of course, will add to your expenses every day you delay marketing turkeys that have reached marketable condition. Every turkey grower is familiar with the terrifying increase in feed consumption that occurs as his birds begin to mature. A hundred turkeys will eat about 320 lbs. of feed their 14th week of life; this zooms to about 460 lbs. a mere six weeks later.

At Cornell University, Dr. L. M. Scott made some studies that show what you can expect to get in growth per pound of feed week by week as your flock grows older. Hens do not convert feed into meat as efficiently as toms. At 20 weeks, it takes 3.6 lbs. of feed to make a pound of meat; at 24 weeks the ratio is 4.3 to 1 or .7 lbs. more feed per pound of gain. Tom turkeys' conversion increases from 3.0 to 3.4 in the same four weeks.

The weight increase for hens is about one-half pound a week; whereas toms put on weight at about 1.2 lbs. per week from the 20th week through the 24th. Hen turkeys have the best feed conversion at 20 weeks when their average weight is about 13.5 lbs. To feed hens two weeks longer requires 7.9 lbs. for each pound of gain. From 22 weeks on, it takes 10 lbs. of feed to put on one pounds of gain. In general, it's pretty risky to hold hens longer than 22 weeks.

Tom turkeys can be held longer than hens because they are more efficient in converting feed into meat. The weekly gain is approximately 1.2 lbs. a week compared to one-half pound for hens. Under most circumstances, toms are likely to give best returns if marketed at 24 weeks. After 26 weeks, the price must be extraordinarily high to justify this late marketing.

If turkeys are to be marketed at the age that they are likely to assure the best weight, feed efficiency, quality, and profit to the grower, then the starting date must be determined in advance. For example, hen turkeys started the week of June 19 will be 22 weeks of age the week of November 13, one week before Thanksgiving (November 23). Tom turkeys should be started at least two weeks sooner (the week of June 5) to have them reach 24 weeks of age.

USDA Photo

These were killed in early November, wrapped, and quick-frozen for Thanksgiving trade.

This poses a problem of having two different starting dates for turkeys to be marketed at a given time. Some growers solve the problem by starting all of the turkeys at the same time, but dressing the hens at 22 weeks and placing them in cold storage.

Loyal Yoder, a member of the Sunnyside 4-H Club in Garrett Co., Md., started with 1,500 Broad-breasted Bronze poults last year and raised 1,406 of them to an average weight of 19 lbs. In the state turkey contest he got second prize based on the conformation, fleshing, finish and cleanliness of his birds. □

get details on the...

WRITE FOR FREE PICTURES & PLANS

Silo-Matic® UNLOADER and HOW TO FEED MECHANICALLY

SAVE TIME & LABOR MAKE MONEY

Dept. B

VAN DUSEN & CO., INC., WAYZATA, MINN.

MEN PAST 40

Afflicted With Bladder Trouble, Pains in Back, Hips, Legs, Nervousness, Tiredness.

If you have these troubles, particularly bladder trouble, then your condition may be traced to Glandular Inflammation . . . a constitutional disease. Medicines that give temporary relief will not remove the cause of your trouble. Neglect of Glandular Inflammation often leads to premature old age and sometimes incurable malignancy.

The past few years men from over 1,000 communities have been successfully NON-SURGICALLY treated here at Excelsior Springs for Glandular Inflammation. They have found soothing relief and a new outlook in the future of life.

The Excelsior Medical Clinic, an institution devoted exclusively to the treatment of diseases peculiar to older men, has a NEW FREE BOOK that tells how Glandular Inflammation may be corrected by Proven NON-SURGICAL treatments. This FREE BOOK may prove of utmost importance in your life. Write today. EXCELSIOR MEDICAL CLINIC, Dept. B 1540, Excelsior Springs, Mo.

FORT WORTH STOCK SHOW AND RODEO

JAN. 26 THRU FEB. 4, 1962

WORLD'S MOST COMPLETE LIVESTOCK EXPOSITION

More fine animals . . . in more classes . . . in world's finest livestock exposition plant. Plan now to exhibit . . . to attend the Livestock Auctions . . . to see the World's Original Indoor Rodeo . . . fine Horse Show.

CASH AWARD OFFERED — Approximately $200,000. Premium list on request.

ENTRY CLOSING DATES — Livestock, Dec. 20, 1961; Horses, Jan. 2, 1962; Poultry and Rabbits, Jan. 15, 1962.

This Christmas, Give American Livestock Journal

. . . it's the best way to say Merry Christmas to all your friends who appreciate fine livestock

1 year — $1
3 years — $2
5 years — $3

Fill in the gift subscription form and mail it to:

Circulation Department
AMERICAN LIVESTOCK JOURNAL
200 South 7th Street
Columbia, Missouri

If you so indicate, AMERICAN LIVESTOCK JOURNAL will send your friend an attractive card announcing your gift. The card will be marked "Don't Open Until Christmas."

Please send AMERICAN LIVESTOCK JOURNAL, as a gift, beginning with the January 1962 issue

TO Name ..... NEW ☐
Address ..... OR
City ..... State ..... RENEW ☐

Gift card from .....
(print your name as you want it to appear on gift card)

Please send AMERICAN LIVESTOCK JOURNAL, as a gift, beginning with the January 1962 issue

TO Name ..... NEW ☐
Address ..... OR
City ..... State ..... RENEW ☐

Gift card from .....
(print your name as you want it to appear on gift card)

Please send AMERICAN LIVESTOCK JOURNAL, as a gift, beginning with the January 1962 issue

TO Name ..... NEW ☐
Address ..... OR
City ..... State ..... RENEW ☐

Gift card from .....
(print your name as you want it to appear on gift card)

Please send AMERICAN LIVESTOCK JOURNAL, as a gift, beginning with the January 1962 issue

TO Name ..... NEW ☐
Address ..... OR
City ..... State ..... RENEW ☐

Gift card from .....
(print your name as you want it to appear on gift card)

THE ROAMING TANNERY

WHY AN INDUSTRY moves from one area to another in the wake of developing markets, labor availability, or changes in technology, is rarely seen more plainly than in the record of the leather and leather products industry. This is one of the "slow-growth" industries whose regional changes over time are analyzed in a recently published RFF study.

Basically, the shifts of the leather and leather products industry since 1939 have gone in two divergent directions. Shoemaking has followed the common path westward. Even before this the stimulus of new pulls —the introduction of machinery to replace skilled labor, the advantage of closeness to terminal markets— had attracted a part of the industry out of New England to the Middle Atlantic states and then to the Great Lakes states. The trend west by now has continued into Texas and California.

But accompanying the westward trek of the shoemakers there has been a reverse shift eastward in leather tanning and light leather goods production. A large part of this type of production has moved back into areas which once were known for the volume of their tanning operations but which later were abandoned in favor of areas close to Middle Western stockyards.

"As there is substantial weight-loss in the processing of hides, the tanning industry is oriented to the sources of leather inputs. This form of orientation has not always been prevalent. In earlier days the weight of the bark used in tanning was five times the weight of the product and two and a half times the weight of the hide. Production was carried on close to the forests in the East. The development of concentrated and inorganic tanning which diminished the importance of transporting bark, plus the development of large-scale meat packing in the Midwest, caused a widespread migration to the Great Lakes states. Only the light leathers based upon imported hides retained much activity on the Eastern Seaboard.

"In our current period the trend is reversing itself, and there is a shift back to the Eastern Seaboard. As before, the reason is a change in the access to materials. The demand for leather has come to exceed the supplies that develop as a by-product of meat packing. As a consequence, a larger share of the leather output is based upon imported hides; hence the decline in the Great Lakes states and the expansion in the Middle Atlantic states."

A double-barreled program of promotion of leather qualities and of research into new tanning and manufacturing processes was described by Irving R. Glass, vice-president of the Tanner's Council of America before the American National Cattlemen's Association.

Mr. Glass presented an unusual "visual aid" to his talk—twelve lovely models displayed the latest in all-leather garments. He told the cattlemen that leather has come a long way in the postwar period, despite the inroads of plastic. He credited it to expanded research and changing methods which have now made American leathers the finest in the world. But he said the promotion and educational program through Leather Industries of America have aided the public's awareness of the improved qualities and of new uses.

"Leather is superior, but unfortunately, virtue is not its own reward in an era of massive advertising," he said. "Virtue has to be sold, and the hide and leather people are doing just that."

He called on the cattle industry to recognize that the American leather industry means $300,000,000 in annual sales of raw materials. Earlier, the secretary of Leather Industries of America, had assisted in the production of the nation's first full-scale, all-leather fashion show before 700 wives of stockmen. Featured were evening gowns and wraps, coats, peddlepushers and other garments—including a brief bathing suit—made entirely of leather.

BULL TESTING STATION

Continued from page 10

cattle with excellent conformation also gain as rapidly as cattle of any other type. Likewise, good feed efficiency can be found in cattle of many types. The testing program is necessary because we cannot make the most satisfactory selection by visual means alone. The station directors are to be congratulated for combining visual ratings with feed and gain records. They should be included, not abandoned.

Beef producers should not be surprised if the program brings about some change in type for it must be admitted that some conformation characteristics are based on tradition and may not stand the rigid test of feed lot gains and consumer preference. If some small changes result, they should not be interpreted as a setback but rather as progress.

Possibly the biggest change that can now be confirmed is that the term "short" has been used for many years to describe a desirable characteristic. But since extremely short bulls neither gain as well nor prove their merit in the cooler, it is likely that more length of body and more length of rump will feature the bulls of both today and tomorrow.

—Briefed from "THE HORMEL FARMER," Austin, Minn. Reproduced by permission of CARROLL PLAGER, livestock extension director, GEO. A. HORMEL & COMPANY. □

COW-CALF PLAN

Continued from page 11

grain. The average return per steer was $163.80.

My tax books show the following for the 1958 income: 5 cull cows to the butcher, $215.40 each. 5 steers to the butcher, 630 lbs., $163.80. 4 steers to the butcher, 540 lbs., $135.25. 7 bull calves, $187.57. 7 heifer calves, $183.28.

The total is $5,040 worth of beef products. Without considering depreciation, taxes, or my spare time labor, my total expenses for this year (hay, hired labor, registry, veterinary) are approximately $800.

This, I think, is a nice income in comparison with cows on milk or any other type of operation. □

. . . from Allendale, South Carolina

"118 ABS CALVES OUTSCORE OTHERS BY 10%," says Dunbar Oswald

In a performance test supervised by Clemson College in the Dunbar Oswald Herd of Allendale, South Carolina, 118 American Breeders Service calves outscored others in the same herd by 10 percent.

Mr. Oswald had 347 calves tested which averaged 86 percent, based on the Virginia system of gain and grade evaluation. The 118 calves sired by ABS Beef Bulls in the same herd scored 95.6 percent. Not only had they gained better than naturally sired calves in the same herd, but they graded higher, too, according to the Clemson College animal husbandry specialists who supervised the test.

Mr. Oswald says, "My 118 cows were all bred within a 28-day period by Screven Breeders, the local ABS Distributor. I've been so well pleased with the results that I've bred 250 head with ABS Beef semen this year."

Breed your herd the ABS way for a more uniform crop of fast-gaining calves sired by ABS progeny and/or performance tested bulls. Get more cows settled on time with ABS Frozen Semen — national average 72 percent. Call your local ABS Distributor for service or more information. Ask for the Beef Sire Directory and the ABS Beef Newsletter.

8 Great Breeds — 24 Progeny and/or Performance Tested Sires — Serving the Beef Industry

ABS

QUALITY CONTROL

by **Dr. Ray R. Woodward,**
ABS Beef Advisor

We are hearing the term "quality control" used with increasing frequency. What does it mean in terms of the meat industry? In essence, it means that packers and retailers are becoming more interested in a known source of **uniform** quality beef.

Research has taught us that the factors which control beef quality are quite highly inherited. Thus, certain bulls have the ability to sire steers with better carcasses than do other bulls. Unfortunately, we find wide differences in the progeny of bulls that look alike and would appear to have the ability to sire calves of known quality. The problem, then, is how to rate bulls for this trait.

The only sure method to measure a bull's ability to sire good-quality beef with a high percentage of lean meat that is tender and flavorful is by a progeny test.

Cattlemen who are breeding for the future can best achieve superior meat quality in their herds through artificial breeding. You can do this by using the service of individual bulls, proven for their ability to produce superior meat quality, on as many cows as you want for assurance of uniformity.

AMERICAN BREEDERS SERVICE

325 North Wells Street • Chicago 10, Illinois

Clip Cows Regularly With

Sunbeam STEWART CLIPMASTER ANIMAL CLIPPER

A Perfect XMAS GIFT

CLIPS Cows, Horses Mules, Dogs, faster, better

Nationally known Dairy and Health Authorities say: Clipping prevents dirt accumulation—the chief source of sediment. Clipped cows are easier to keep clean, produce more desirable milk with low bacteria count, less sediment. Overall clipping helps control lice infestation. For best clipping results use Clipmaster animal clipper. Preferred for its convenient size, ease of handling, lasting durability. No. 51, $52.95. (Colorado and West, $53.25).

Sunbeam CORPORATION
Dept. 12, 5600 W. Roosevelt Rd., Chicago 50, Ill.
©SUNBEAM, STEWART, CLIPMASTER

Switched to Calf Manna-won at the National!

DICK BATES, manager of Hunsinger Farms, Mt. Eaton, Ohio, changed to Albers Calf Manna last year—fitted the Champion Female of 1960 Polled Hereford Show. "This is our first win at the National," says Bates. "I'm convinced that Calf Manna keeps animals on feed—ours always have a good appetite."

Dept. AL-111
Albers Milling Company
1016 Central Street
Kansas City 5, Missouri

Calf Manna

FREE ALBERS BEEF WEIGHT COMPUTER! Figure weight easily, accurately. Enclose Albers Quality Control Circle.

Name_____

Address_____

MEATIER LAMB CHOPS

Now they are putting lambs to the slaughter test and learning a great deal about producing lamb and mutton more appealing to the housewife as she prospects the meat counter.

A very successful Lamb Carcass Contest was held at the 1961 Eastern States Exposition. Thirty-three lambs were entered from 6 of the northeastern states and were divided on a live weight basis into two classes—light weights, 70 to 99 lbs., and heavy-weights from 100 to 120 lbs. All the lambs were judged alive by Prof. D. M. Kinsman of Connecticut and Prof. Ben Morgan from Pennsylvania State.

The lambs were then slaughtered and their carcasses judged by Prof. Ernest Buck of Massachusetts, Prof. Donald M. Kinsman of Connecticut and Ray Fleming, Meat Sales Manager of STOP & SHOP.

The 1st lamb on foot came out 4th on the hooks. The second-prize lamb carcass owned by Ernest Fle-

The carcass of a 40-lb. Southdown sired lamb from the light-weight division, exhibited by Richard Litz, Presque Isle, won the Grand Championship award. Hampshire sired lamb carcass owned by Ernest Flebotte of Ludlow, Mass., won the Nelson Clark Lamb Chop Special, an award to the carcass with the largest rib eye muscle area. The winner had 4.53 square inches of rib eye area per 100 pounds chilled carcass weight. This lamb weighed 74 lbs. alive, dressed 56.4%.

Following the award, The Food Marts, Inc., after competitive bedding, purchased the champion lamb carcass for $8 per pound. The four top lamb carcasses were placed on display for the nearly half million Exposition visitors in a portable refrigerated cooler at the Exposition.

The other contest carcasses were displayed at the Swift & Company Branch House at Springfield.

Prof. W. S. Hale of the Animal Husbandry Department, University of Connecticut at Storrs is quite enthusiastic about this development in flock improvement.

Food Marts, Inc. purchased the grand champion lamb carcass exhibited by Richard Litz of Presque Isle, Maine for $8 per pound. Left to right: Arthur Minsk and David Katz, representatives of Food Marts, Inc.

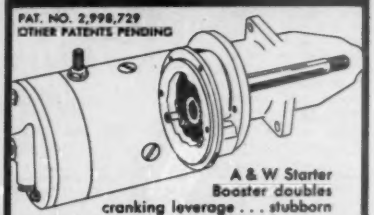
NO HORNS!

One application of Dr. Naylor's Dehorning Paste on horn button of calves, kids, lambs—and *no horns will grow.* No cutting, no bleeding. 4oz. jar—$1.00 at your dealer's, or mailed postpaid.
H. W. NAYLOR CO.
Morris 12, N.Y.

Dr. Naylor's DEHORNING PASTE

OLD OR COLD TRACTORS START FAST!

PAT. NO. 2,998,729
OTHER PATENTS PENDING



A & W Starter Booster doubles cranking leverage . . . stubborn engine turns over easily and starts. Costs less than a new battery . . . models to fit most tractors. Thousands now in use . . . sold by tractor dealers everywhere, or write:

AW TRACTOR PRODUCTS, INC.
Box D Colfax, Ill.

4% Current Rate Per Annum

MONEY IN AT THE 15th EARNS FROM THE 1st!

Earn this high rate of dividend and get one of these valuable free gifts . . . from this modern 52 year old Association. Save by Mail . . . and we will handle all details for you.

POLAROID CAMERA KIT
Free with $3,000 Account
G.E. CLOCK RADIO
Free with $1,000 Account
G.E. ALARM CLOCK
Free when opening account for $100 or more.

52 YEARS • 1908-1961
CITY SAVINGS ASSOCIATION
1656 W. Chicago Avenue • Chicago, Ill.
ASSETS OVER $22,000,000.00

CARROT OIL VITAMIN PRODUCTS

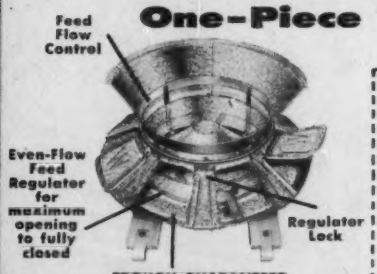
In your feeds will improve feeding and breeding results, and reduce your over-all costs. Ask for 36 page Carrot Oil booklet—and other literature. Satisfaction guaranteed.

Nutritional Research Associates
South Whitley, Ind., Department 13

Announcing the newest of the new!

WARNER SPUN-LINE ROUND HOG FEEDER

with **Spun-Galvanized Steel One-Piece Trough**


Feed Flow Control
Even-Flow Feed Regulator for maximum opening to fully closed
Regulator Lock
TROUGH GUARANTEED for 15 years!

WARNER BROODER CORP.
North Manchester, Indiana

Please send me complete information on your new Spun-Line Round Hog Feeder.

NAME

ADDRESS

CITY STATE

FARNAM EASY HOLD
CHUTE GATE
PORTABLE or PERMANENT Installation In Any Opening!

Enables you to quickly restrain and safely hold animals for inspection, treatment, dehorning, vaccination, ear marking, etc. Makes cattle handling easier, safer, faster. Every stock farm needs and should have this low-cost stock-holding gate.

Accept This "FREE TRIAL" OFFER
Try this Gate at our risk! Write for Illustrated Literature and "30-Day Trial Plan"—

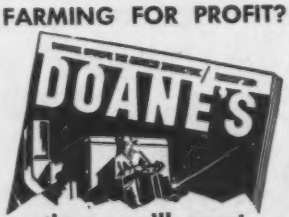
FARNAM EQUIP. CO. Dept. CG-4 [illegible]

ENGLISH LARGE BLACKS

There is not a pig in the world that will compare with the English Large Black for cross-breeding. Cross the English Large Black female with a Landrace, Yorkshire or any other good meat or bacon type boar and you will have the most profitable commercial pigs available, pigs that are larger at birth, larger at weaning age, pigs that go to market earlier on less feed, pigs that live better. We also have First Cross Blue Spotted Hybrids and Landrace. Ask about our package deals—2 gilts and 1 unrelated boar. Send for free new catalogue, giving you a lot of valuable information about cross-breeding and giving you full information about the extra money you will make with English Large Blacks. Photos.

TWEEDLE FARMS
Fergus 1, Ontario, Canada

FARMING FOR PROFIT?



then you'll want
DOANE'S MAGAZINE

See for yourself how you can add extra income to your farm operation. Send only 25c for the current issue of Doane's Magazine and set of exclusive Doane Digest Reports. New Doane's Magazine is packed with profit-making articles on marketing, management, insurance, taxes, farm legislation, record keeping, housing and feeding systems, finance—covers entire business side of farming.

Order sample copy now and also receive a group of latest Doane Digest Reports (exclusive buy and sell information, new ideas on crop production, machinery, farm buildings).

Clip coupon and mail it today!

DOANE AGRICULTURAL SERVICE
Box 7126, 5142 Delmar Blvd.
St. Louis 8, Missouri

Here's my 25¢ . . . send me the Doane's Magazine, plus sample Doane DIGEST Reports at once.

NAME .....

RFD or STREET .....

CITY ..... STATE.....

HOGS ON SLATTED

Interest is growing in slatted floors for hogs, mainly because they reduce the labor needed for cleaning. The animals work the droppings through the slots in the floor and keep themselves clean. Manure can then be removed from under the slats without interference from animals and equipment.

Slatted floors are not new. They originated in Iceland some 200 years ago. Gradually the idea spread to Europe. Some work has been done there in designing and testing floors for farm animals, but it is still in the development stage.

In this country, the poultry industry has been using raised floors for many years. Some farmers are using them for swine, but little is known about the requirements for an over-all system or the benefits and limitations of such a system.

Three Materials Tested

In January this year, pigs were put on three test floors which had been installed above the existing floor in the Hog-O-Matic facility at the Illinois swine farm. Three different materials were used for the test floors—concrete slats, wood slats, and quarry screen. The primary purpose of this test was to observe the pigs during the finishing period and determine which of the flooring materials appeared best.

The flooring materials covered the full area of the pens. Concrete slats had a top width of 5 inches and tapered to a 3-inch width at the bottom. Wood slats were made by cutting 4 x 8 Douglas fir timber into two equal parts. The cutting was done at a 15-degree angle, so that each slat had one tapered side, and a top width of slightly over 4½ inches. Both concrete and wood slats were spaced 1 inch apart. Openings in the quarry screen were about 1 inch square.

Pens were about 6 by 12 feet, with 10 pigs in a pen. This gave approximately 7 square feet per animal. The area of the pen was not changed during the growing cycle, which started when the pigs weighed about 50 pounds.

Hogs on this type of quarry screen did not want to move around very much, and their hoofs showed signs of wear.

All things considered, these concrete slats, 5 inches wide at top slanting to 3 inches at the bottom and spaced an inch apart proved to be the most satisfactory.

FLOORS

How Materials Compared

Pigs raised on the concrete and wood slats have shown no visible ill effects. Animals on the quarry screen have been rather reluctant to move around and their hoofs show some wear.

For obvious reasons, the quarry screen was superior in self-cleaning action. There was not much difference between the concrete and wood slats in this respect.

Other factors that need to be considered when choosing a flooring material include durability, anchorage, dimensional stability with changes in conditions, and cost. On the basis of all factors involved, concrete would appear to be the best choice.

The results of this test have been used to design a finishing house for 15 litters, which will be installed on the Moorman Breeding Research Farm. There it will be possible to compare this system with other systems of raising hogs. Other problems connected with cleaning and ventilation will also be studied.

—C. K. SPILLMAN and E. L. HANSEN, University of Illinois. □

Douglas fir wood slats, 4 ¼ inches wide, also spaced 1 inch apart, worked well. Illinois researcher A. H. Jensen will compare with solid green oak floor next. He says pigs with too much room don't stay as clean as pigs in smaller quarters.

BEAU BREHM "L" RANCH

POLLED HEREFORD LAMPLIGHTER SALE

At Farm 2½ Miles North of BelleRive, Ill.

SATURDAY, NOV. 25, 1961

17 SERVICE AGE BULLS
27 FEMALES, bred and open

Featuring the get and services of: JR. LAMPLIGHTER 4th; BB MODEST LAMPLIGHTER 28; WF DOMESTIC MISTER; MODEST LAMPLIGHTER 2d, "The original Polled Lamplighter." Strong Polled Breeding, excellent thickness, strong heads, straight hind legs, thickness of quarter and thickness across the top. A really strong consignment of LAMPLIGHTERS.

Write for catalog:

BEAU BREHM "L" RANCH, BelleRive, Ill. C. E. Brehm, owner, Mt. Vernon, Ill.
Ram Sampson, Mgr., BelleRive, Ill.

FOR: Charolaise • Charbray • Charford CATTLE, Write

ZINALA FARMS

Route 1, Loami, Illinois

WYE PLANTATION

FOR SALE: Performance Tested Angus Bulls. Large, heavy, fast growing of Scotch breeding. Advanced Register Records.
Frozen Semen from our Imported Scotch and P. R. I. progeny proven herd sires.
Folders with data and prices on request.
Address: James B. Lingle, Manager
(Telephone: TAylor 7-2041)

WYE PLANTATION, Queenstown, Md.

Raise Thrifty, Money-Making

LANDRACE

Larger Litters—Faster Growth
Takes Less Feed
Test Proven Over Half A Century
For Free Information Write
American Landrace Assn.
Box 29 Noblesville, Ind.

MEAT HOGS

POLAND CHINAS

• Grand Champion over all breeds and crosses at the last two International Live Stock Expositions.

• Grand Champion and Reserve over all breeds and crosses in the Pork Carcass Contest at the last International—Fourth (4th) time in five years Polands have won the Championship.

• Big, meaty Polands will give you rapid, economical gains besides Championship market quality.

For additional information and names of breeders, write the — **Poland China Record Assn.**
501 East Losey St.
Galesburg, Ill.

—1955 National Grand Champion Barrow

The Breed with a Record!

RED POLLS for STEADY PROFIT

Red Polls wean nearly one-fifth more calf, by weight, per cow in cow and calf herds.
That's up to 100 lbs. more calf to sell, and more profit.
Write For Free Literature
Red Poll Cattle Club of America
3275-B Holdrege St., Lincoln 3, Neb.

TIMBERLINE FARMS ANGUS COW SALE

In sale pavilion, midway between Peoria and Bloomington, Ill., on Rt. 150, Congerville, Ill.

TUESDAY, NOV. 21, 1961

29 Cows, some with calves; 41 Bred Heifers, 12 Open Heifers; 4 Bulls, plus 5 commercial bulls and a few grade cows sired by or bred to Fuerst Eileenmere 999-35; Dor Mac's Bardoliermere 32d; R. T. Bardoliermere 32d; Evergood Eileenmere Lad.

Auctioneers—James and Coulter

Write for catalog:
Forrest W. Lemons, Congerville, Illinois

HORSE SENSE

Yip-ee! A 125-lb. blue eyed blonde Texas girl from a dairy farm in Jim Wells County whose 2,600 Jersey cows average 7,000 pounds a year—Miss Louise Knolle—is the new American Dairy Princess. "Miss Wool" is Carolyn Barre from Lavaca Co., Tex. "Miss Mohair" is Carlene Brown of McCulloch County, also in Texas. Well, we have more subscribers in Texas than any other state, but that couldn't be the reason. ☐

A grandmother, Mrs. Neil McLeod of Washington, Kans., is a member of the National Auctioneers Association. She is a hog-caller, too. Her ambition is to enunciate auctioneering chants so that anyone can understand them. More power! ☐

Prof. Claude Harper, who started as a sheepman and got to be head of Animal Science at Purdue, is going to the University of Indonesia in Java to set up an animal husbandry department. But he can't leave until after the 1961 International Livestock Exposition in Chicago, Nov. 24-Dec. 2. ☐

Wilbur Plager pointed his old Pontiac up towards Parma, Mich., toward Bill Palmer's place. We thought he was aiming to see the Yorkshire sows. But no, Bill is putting a 9-hole golf course and Wilbur was looking over the bunkers, or sandtraps, or caddies, or whatyoumaycallem, to see if he could beat him. ☐

William Philbrick of Rockingham Co., N. H., is dead at 81. He worked with horses all his life and told his two boys that he would die happy, if he knew he was hauled to the cemetery in a horse-drawn hearse. They complied and it made the burial something less than a mournful occasion. ☐

Breeders of race horses do not like twin foals. Indeed, producers of Standardbreds or Thoroughbreds get white around the gills if you ask them whether that old brood mare has ever had twins. All other animal improvers dote on twins, specially like twins, rather than freemartins. ☐

Last February in the Louisville Barrow Show, Crab Tree Farm had a Yorkshire that weighed 197 pounds on the day before he was 4 months old. He had a loin-eye that measured 4.4 sq. in. ☐

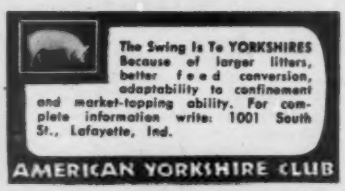
Face fly larvae develop only in fresh manure. So USDA comes up with an organic phosphorous insecticide that you mix in the feed. It passes undigested through the cattle and poisons the dog-gone face fly before it is born. ☐

It can't happen to you, but it did to Jimmy when those old boards over the cistern caved in; it did happen to John when he got caught in an unguarded power take-off while haying, and it did happen to little Nancy when Dad said she could have a ride on the tractor just out to the field. And it can happen to folks just like you and me who keep thinking safety is for someone else. —SAM WINNETT in Republic "Farm Spokesman." ☐

YOUR PONY Magazine Published Monthly . . . largest and most complete pony publication printed covering all breeds. National Scope . . . $3.75 per year U.S.; $4.00 Canada and Foreign. BOX 125, BARABOO, WISC.

CHAROLAIS-CHARBRAY-CHAROLAIS-CROSS
J. P. Wagner, Owner — CR — Jim Ritter, Mgr.
BOX R RANCH Ash Flat Ark.
TELEPHONE: HARDY 3783

FREE FACTS
How to Succeed In Today's Dairying with
REGISTERED GUERNSEYS
Get all the facts and you'll find out why... adaptable, easy-to-handle, efficient Registered Guernseys are your best choice for highest net income in modern dairying.
THE AMERICAN GUERNSEY CATTLE CLUB
21 Main Street, Peterborough, N. H.
Send FREE information on how to . . .
☐ Start a Guernsey herd and where to buy breeding stock. ☐ Add profits producing and selling nationally-advertised Golden Guernsey Milk.
Name _____
Address _____
Town _____ State _____


The Swing Is To YORKSHIRES Because of larger litters, better feed conversion, adaptability to confinement and market-topping ability. For complete information write: 1001 South St., Lafayette, Ind.
AMERICAN YORKSHIRE CLUB

If you are in the Sheep Business to make money, switch to Rambouillets

Rambouillets produce more pounds of better quality lambs, thriftier feeder lambs, more pounds of better quality wool, and better ewe lambs for replacements. This means More Net Income.
For Information Write American Rambouillet Sheep Breeders Ass'n
2709 Sherwood Way — San Angelo, Texas

More Profit from HAMPSHIRES

1ST in VALUE in DEMAND in EARNINGS
The dominant breed of the commercial pork producers of the nation. Most eagerly sought on every market. . . . Get full details of Hampshire prolificacy, feeding efficiency, lean meat value and earning power. Write to Dept. B. G.,
HAMPSHIRE SWINE REGISTRY
1111 Main Street, Peoria, Illinois

ANGUS CATTLE AND CHEVIOT SHEEP
Of Size and Quality
See our two choice heifers in the
RECORD OF PERFORMANCE BULL AND HEIFER SALE
Culpeper, Virginia, November 16th.
Come To See Us
CHARLES W. WAMPLER AND SONS
Harrisonburg, Virginia

DEVON CATTLE SALE—Introducing big red breed that produces youngest 1000-pound high quality beef. Auction of 40 head at Eastern National Show, Timonium, Md. Nov. 16. Free: Catalog B. American Devon Cattle Club, Agawam, Mass.

CLASSIFIED advertisements | BUY-SELL-EXCHANGE

EVERYTHING FOR THE LIVESTOCKMAN

RATES 60c PER WORD, PAYMENT IN ADVANCE. MINIMUM AD 20 WORDS. SEND PAYMENT AND ORDER BY 5th OF MONTH FOR PUBLICATION IN NEXT ISSUE, TO AMERICAN LIVESTOCK JOURNAL, 200 S. SEVENTH ST. ★ COLUMBIA ★ MISSOURI

AGENTS WANTED

Sensational new longer-burning Light Bulb. Amazing Free Replacement Guarantee—never again buy light bulbs. No competition. Multi-million dollar market yours alone. Make small fortune even spare time. Incredibly quick sales. Free sales kit. Merlite (Bulb Div.), 114 E. 32nd, Dept. C-74L, New York 16, N. Y.

AUCTIONEERS

LEARN AUCTIONEERING! Free catalog. MISSOURI AUCTION SCHOOL, 1330 Linwood, Kansas City 9-X62, Missouri.

BE AN AUCTIONEER. Term soon. Write for free catalog. Home Study Course available. Reppert School of Auctioneering, Decatur, Indiana, Box 3. Founded 1921. G. I. Training approved.

LEARN AUCTIONEERING, 23 Years largest in the world. Term Soon. Free Catalog. Reisch Auction School, Mason City, Iowa.

BUSINESS OPPORTUNITIES

MAKE BIG MONEY raising rabbits, cavies, Chinchillas or mink for us. Free information. Keeney Brothers, New Freedom, Penna.

CATTLE

FOR SALE—WISCONSIN'S HIGH PRODUCTION and top quality Holstein and Guernsey dairy cows and heifers due to freshen soon. Also younger heifers and heifer calves—all ages. Will deliver any size order by truck to your farm, subject to your inspection. Ross Blott, P.O. Box 158, Mukwonago, Wisconsin.

SPRING RIVER FARM for quality Registered Angus bulls. Also beautiful heifers. C. Geimer, Burr Oak, Michigan.

SUFFOLK SHEEP
Leading in U. S. Registrations

No wonder there are more registered Suffolk sheep than any other kind in the United States. Suffolks are a hardy sheep that lamb easily and grow fast. For greater profit per sheep—**RAISE SUFFOLKS.**

For free information and breeder's list write
NATIONAL SUFFOLK SHEEP ASS'N
P.O. Box 342Z Columbia, Mo.

CHAROLAIS BULLS, crossed with your present cow herd, produce quality calves that grow and gain up to 20% faster. Write the Midwest's original and largest Charolais breeder for free color pictures, breeding and gestation chart. Frozen semen, breeding stock for immediate delivery.
McGINNESS BROTHERS CHAROLAIS,
Route 1-L, Lathrop, Mo.

CHAROLAIS
★ The Silver Cattle With A Golden Future

CHAROLAIS
★ The Largest Cattle on Earth . . .

You'll Enjoy
THE CHAROLAIS REVIEW

1 year	(12 issues)	$ 4.00
2 years	(24 issues)	7.00
3 years	(36 issues)	10.00
5 years	(60 issues)	15.00

Sample copy, 50c coins and four 4-cent stamps.

THE CHAROLAIS REVIEW
305 So. 16th St. Ord, Nebraska

HOLSTEIN HEIFER CALVES. Excellent quality. Shipped subject to inspection and approval. Write or telephone for prices. Walter McFarland, Watertown, Wisconsin. Telephone 840.

WISCONSIN'S FINEST Holstein and Guernsey dairy calves shipped to you on approval. Write for free price list. Otto Vanderburg, North Prairie, Wisconsin.

CHAROLAIS PUREBRED. Females, Bulls. Foundation herd quality. Imported Yates bloodlines. Bill Lamme, Laclede (59), Missouri.

CATTLE MARKERS

Cattle Eartags legible 50 ft., Chains, Nylon Rope Sets, Anklets. Samples. Nearest Dealer. Bock's Supplies, Mattoon, Illinois.

HORSES

"HOW TO TRAIN HORSES"—A book everyone who likes horses should have. FREE. No obligation. Simply address Beery School of Horsemanship, Dept. 211 Pleasant Hill, Ohio.

OF INTEREST TO WOMEN

$2.50 HOURLY possible sewing aprons at home for merchants. Materials supplied to you without cost. Write Jiffy Manufacturing, Lake Village 55, Arkansas.

HOME TYPING: $65 week possible! Details, $1. Simon, 709 Webster, New Rochelle, BG-10, N.Y.

$25.00 Weekly making Flowers. Spare Time. Discount Catalog 10c. Floicraft, Farrell, Penna.

LIVESTOCK

HOLSTEIN STEERS—HOLSTEIN HEIFERS. Uniform loads. Best quality. From 250 pounds up. Wholesale prices. Ed Howey, 306 Exchange Bldg., South St. Paul, Minn.

MISCELLANEOUS

BUCKSKIN JACKETS, Gloves, Moccasins, etc. Deerskins tanned. Send 50c for Buckskin money poke and big illustrated catalog. Berman, Buckskin Co., Mpls. 1, Minn. Dept. 30.

INVENTIONS WANTED for immediate promotion! Patented, unpatented. Outright cash; royalties! All types considered. Casco, Dept. 6, Mills Building, Washington 6, D. C.

LONESOME? Join Florida's unique introduction service. Write for free particulars; confidential. Tropic Club, Box 4747 EC, Miami Beach 41, Fla.

RABBITS

RAISE ANGORA, New Zealand Rabbits, Fishworms on $500 month plan. Free details. White's Rabbitry, Mt. Vernon, Ohio.

REAL ESTATE

CANADIAN FARM LANDS—New and improved land in productive soil areas. Reasonably priced. Good settlement opportunities. Free information from Canadian National Railways, Room B100, Union Station, Winnipeg 1, Canada.

SHEEP

MAKE MONEY WITH SHEEP. Sheep Magazine—monthly—Send $2.00 for 1 year. Sheep Breeder and Sheepman, Box 88B, Columbia, Missouri.

CRAMMED WITH USEFUL INFORMATION for sheep raisers old and new. 12 months $2.00. Shepherd Magazine, Sheffield 76, Mass.

STOCKMEN'S SUPPLIES

BREEDERS' CATALOG. Lists world's most complete line of scientific farming and livestock supplies. Write Nasco, Fort Atkinson, Wisconsin.

VETERINARY SUPPLIES

Free 92-Page Handbook—Catalog. Livestock Diseases. Save money. Complete list vaccines, drugs, instruments. Kansas City Vaccine Co., Dept. 28, Kansas City, Missouri.

LATEST VETERINARY MEDICAL GUIDE BY VETERINARIAN describes diseases, conditions, 25c refundable with order. Save dollars ARF (B), farm-proved Drugs, Vaccines, Instruments. American Research Farms, EG, Lenexa, Kansas.

SUBSCRIBE NOW TO
THE AMERICAN LIVESTOCK JOURNAL

1 year	$1.00	5 years	$3.00
3 years	$2.00	9 years	$5.00

TO: THE AMERICAN LIVESTOCK JOURNAL
200 South 7th Street
Columbia, Missouri

11X

Enclosed find my check for $..... to cover ..... years subscription. Please start mailing to me now at the address shown below:

NAME .....

ROUTE ..... BOX.....

TOWN ..... STATE.....

SAM GUARD'S ROUNDUP

Give Thanks for Survival GOD OF THE PILGRIM, Great Spirit of the Red Man, Unknown God of the Athenians, Our Heavenly Father of Hallowed Name, Prince of Peace and Holy Comforter, we stutter out a prayer of Thanks Giving. We've been told: once a stooped and hairy Neanderthal man slunk through the forest, hiding from fierce dinosaurs, saber-toothed tigers and reptiles breathing poison. Where are they now? And where is he? Ah, saved by a Merciful Father to flourish in dignity and freedom, to subdue the earth and replenish it, to be kind, just, and brother's keeper. Oh, we thank Thee, Lord of all. Save us once more, from megathon or microcrith, and give us peace in our time. Amen. □

Missiles of Peace IN NEW DELHI, Secretary FREEMAN says there's no sense any more for any child in the world having to go to bed hungry. True. On the Puno plateau Indian boys and girls gulp milk from shiny new tin cups engraved: "From the people of the United States to the school children of Peru." Such are the ways to peace. From our surpluses we could make sure that no child the world around has to go to bed hungry. Charge it to Defense. □

Better Forage FOR 3 YEARS MAINE has had a forage testing service. Missouri is starting one, for fiber-protein analyses of both forage and grain. Pennsylvania State is holding a grassland conference Nov. 20-21, after completing district hay shows. That's right, hay shows. Prizewinning hay-growers get a free chemical analysis, calculated on the TDN content. It may be that the next great advance in animal husbandry will be in learning how to grow, cure and feed better hay. □

Total Digestible Nutrients FAMED PLANT BREEDER DR. E. N. FERGUS, who invented Kenland clover, discovered Ky.-31 fescue and is now working on a roaming alfalfa that will creep among the bluegrass (what a pasture!), tells me that agronomists have the know-how to increase the TDN of our pastures, not twice, but four times. KHRUSHCHEV will never catch us, much less bury us, if we put weight-tested, half-ton yearling beeves on pasture like that. Reminds me: The sturdy old Devon breed, holding a sale at the Eastern National Nov. 16th, featured ruby reds with Growth Index Records. □

P.R.I. Spokesman THE MAGIC CIRCLE STOCKMAN, 616 S. Boston, Tulsa, Okla., is the new official organ of Performance Registry International. The change in journalistic sponsorship was made at the College Station, Tex., meeting of P.R.I. No fuss, no enmity, no regrets. We continue with all our zeal to believe in and support the performance testing of cattle, swine and sheep. We congratulate ROBERT MEADE, editor of the Magic Circle Stockman, and DALE LYNCH, Sec'y of P.R.I., 731 E. 17th Ave., Denver 3, Colo., on the new alliance. We pledge our continued support to the advancement of weight-testing in livestock, purebred and commercial. □

Hogyard Battles AFTER JAN. 1, 1962, farms will be quarantined for cholera warns ROLLAND PAUL of Iowa Swine Producers; reporting the disease will be mandatory. In Dooley Co., Ga., they are blood-testing hogs for brucellosis, straight down the road, herd by herd. Let's not falter this time in freeing every farm from hog cholera and brucellosis. That will save us more than $60 million a year. More, it will free the farrowing house from abortion and the hoglot from fever and sudden death. President KENNEDY signed Public Law 87-209, which teams up nation and states to eradicate cholera. Meanwhile USDA has launched a program to blood-test your swine herd and **validate** it as brucellosis-free. Enlist for the duration. □

Herdsmen's Harvest Home THE LATE ALVIN H. SANDERS, author of the classic Shorthorn, Hereford and Percheron histories, agricultural statesman and founder of this journal, was also the father of the International Livestock Exposition at the Chicago Yards, where it has grown into the greatest stock show in the world. The 62nd annual session will be held Nov. 24th-Dec. 2nd. Now five breeds of dairy cattle join our three prime beef breeds, two both beef and milk, seven kinds of meat hogs and ten of sheep—purebreds, grades and crosses. The Quality Beef Contest carries the best theories of breeding and feeding right through to ultimate evaluation by dressing percentage and square inches of marbled red meat. Fifty purebred record associations hold their annual meetings, the American Society of Animal Production correlates the findings of a thousand tests. The 4-H Club Congress convenes for the 40th time, many a delegate squired by proud papa and mama, who were winners betwixt two world wars. Some even show grandpa the ropes since he was the pig club champion way back when they selected the 4-leaved clover as their emblem. Wouldn't want to miss it. It's more than a show. It's animal agriculture's most convincing advertisement. □

Your friend and fellow-herdsman,

Samuel R. Guard

HOW TO RAISE MORE QUALITY CALVES

Increase your chances of a bigger calf crop and growthy market calves. Follow this Coordinated Feed-Health Program with Aureomycin in formula feeds, and Cyanamid vaccines

Dollar returns from a cow-calf operation depend on a program geared to keep disease out of the herd—*before* calving and all through the calf-growing period.

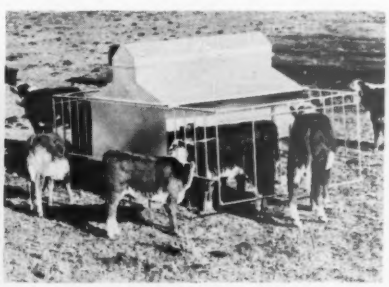
This means following good management and sanitation practices. It means proper feeding at all stages of production. It means checking with your veterinarian—regularly. It means maintaining a routine vaccination schedule to meet disease problems in your area. It means seeking the advice of your agricultural college, extension agent or service man. Such a step-by-step program is practical, sound—and it *pays off*.

When you follow the Cyanamid Feed-Health Program described here you take the systematic steps needed to knock out disease. Ask for the special folder that describes, in detail, the feed-health program for a cow-calf operation, or write direct to: American Cyanamid Company, Agricultural Division, Princeton, N. J. *®AUREOMYCIN is American Cyanamid Company's trademark for chlortetracycline.*

1. How to get more strong, healthy calves. Feed range cubes containing AUREOMYCIN to wintering cows. Cows stay healthier, are able to drop sturdy calves. Vaccinate with CARBOZOO® for anthrax; with LEBAC® for leptospirosis.

2. Better maintenance for wintering calves and yearlings. Feed range cubes that provide 70 mg. of AUREOMYCIN per head per day. Calves resist stresses, stay healthy and put on more growth. Your replacement heifers develop soundly.

3. Keep stock thriving in spring and summer. Feed a pasture supplement that supplies 70 mg. of AUREOMYCIN to prevent foot rot. To prevent anaplasmosis, provide a feed that supplies 0.5 mg. of AUREOMYCIN per pound of body weight daily.



4. Creep feed Aureomycin for low-cost gains. At four weeks of age, put calves on creep feeds that provide 70 mg. of AUREOMYCIN per head per day. This gives calves stamina to resist disease, helps prevent scours and foot rot, protects calves through stresses.

5. Vaccinate to prevent these costly diseases. To prevent blackleg, malignant edema and shipping fever, vaccinate calves with TRI-BAC® at 4 to 6 months of age; with CARBOZOO to prevent anthrax; with LEBAC to prevent leptospirosis.

6. Market more quality calves. When you follow the Cyanamid Feed-Health Program outlined here, your cow-calf operation benefits all the way. You'll send more top-quality animals to market—maintain your reputation as a raiser of good-doing calves.

The label instructions on Cyanamid products, and on products containing Cyanamid ingredients, are the result of years of research and have been accepted by Federal and/or State Governments. Always read the labels and carefully follow directions for use.

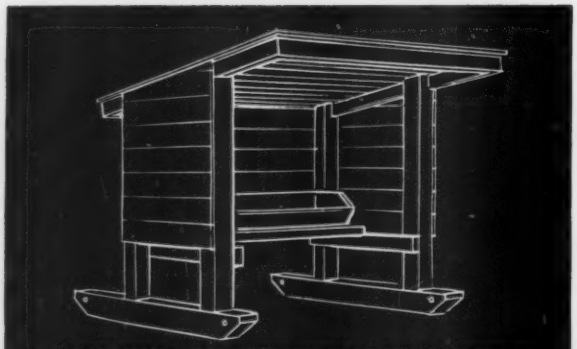
CYANAMID

COORDINATED FEED-HEALTH PROGRAM

CYANAMID SERVES THE MAN WHO MAKES A BUSINESS OF AGRICULTURE

FREE FROM YOUR MORTON T·M SALT DEALER:

PLANS FOR FIVE INEXPENSIVE, EASY-TO-BUILD PORTABLE SALT AND MINERAL FEEDING STATIONS

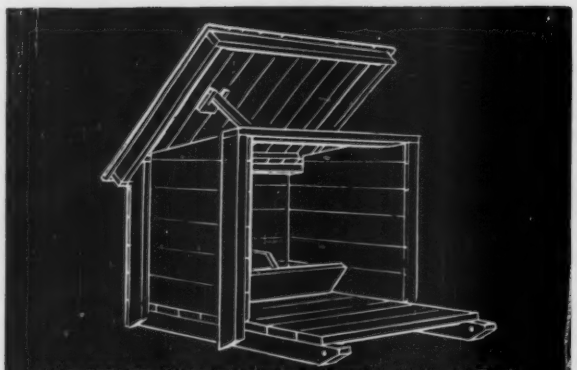


CATTLE FEEDER—Has divided mineral box that can be removed for cleaning. Can be moved on sturdy skids to any part of range or pasture.

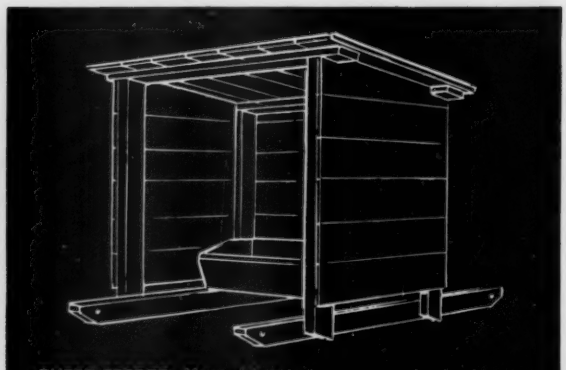
These safe, simple and long-lasting mineral feeding stations were designed by Morton four years ago. Since then thousands have been built from these plans, distributed through Vo-Ag teachers and County Agents. Now you can get a complete set of plans for these easy-to-build salt and mineral feeders from your Morton T-M Salt Dealer—free for the asking!

And remember, when you fill these feeders with Morton Trace-Mineralized Salt, your animals stay healthier and gain faster. Feed Morton T-M Salt free choice—in bags or blocks. **Morton Salt Company, Chicago 6, Illinois.**

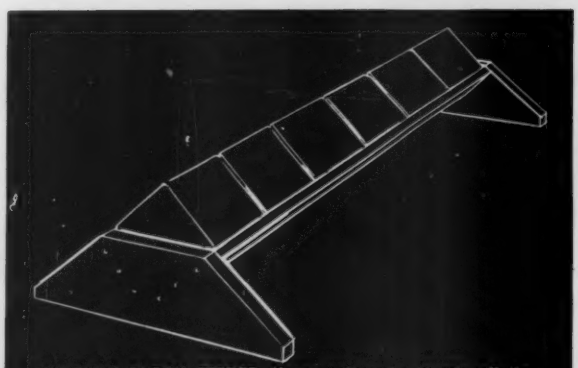
MORTON TRACE-MINERALIZED SALT



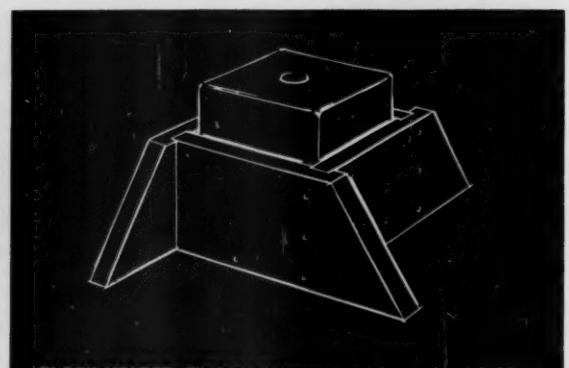
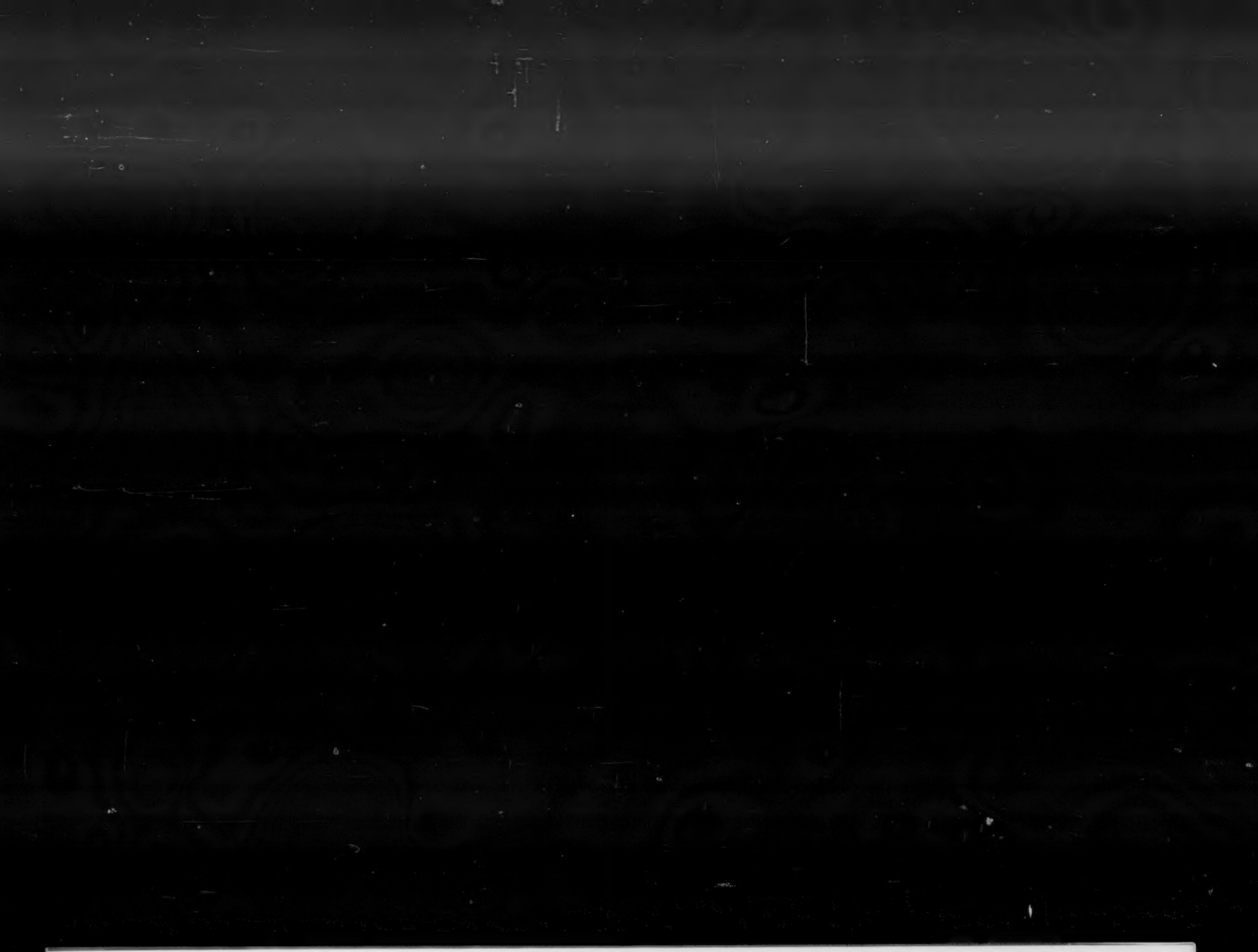
HOG FEEDER—Wide roof overhang keeps minerals dry. Roof is hinged and braced for easy cleaning.



SHEEP FEEDER—Mineral box is low enough for lambs, and rounded edge will not harm fleece.



MULTIPLE BLOCK FEEDER—Keeps salt and minerals off the damp ground, prevents "wet bottom" block waste.



BLOCK HOLDER—Eliminate dangerous metal stake block holders —build this block box from a single length of 2 x 10!